TECHNICAL MANUAL
IROCK PLUS Non-combustible White Faced Insulation

1. **Introduction**
2. **Physical Properties**
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1.1 About This Manual:

This manual has been developed to effectively assist fabricators and contractors to work with IROCK PLUS. Due to the uncontrollable conditions onsite and different methods of job scope, as well as the variable skills and judgment of installers and the quality of equipment, tools, etc, the suggestions and recommendations contained in this manual are provided without warranty. The information and recommendations herein are believed to be correct at time of publishing.

BLUECHIP reserves the right to revise the contents of this manual without prior notice. Any construction or use of the product must be in accordance with all local zoning and/or building codes and in accordance with the current NCC at the time of use. Except as contained in a written warranty certificate, the supplier does not provide any other warranty, either express or implied, and shall not be liable for any damages, including consequential damages.

1.2 Company Background:

Founded in 2003 by five brothers, BLUECHIP has grown every year since to become one of Australia's leading suppliers of architectural building envelopes. BLUECHIP's product range covers the complete system from the structure out including all types of cladding materials, composite decking, sub-framing, insulation, waterproofing and fixings.

With offices in Sydney, Melbourne and Perth, BLUECHIP has supplied more than 3,000,000m2 of materials to Australian projects since 2003. Our commitment to innovation and ongoing investment in R&D ensures BLUECHIP will continue to lead the market with BCA/NCC compliant facade solutions in the years ahead.

For architects and consultants, BLUECHIP's wide range of different materials and 'complete-system' approach enables the creation of inspiring high-performance facades. For builders and contractors, BLUECHIP's large local stock, well established supply chains and genuine appreciation for our clients means you can trust us to deliver as promised every time.

1.3 Company Details:

Company: Blue Chip Group Pty Ltd
ABN: 98 162 282 064
Locations: Sydney | Melbourne | Brisbane | Perth
Phone: 1300 945 123
Email: sales@bluechipgroup.net.au

Important Note: The standard IROCK PLUS facer is made from a fibre-glass fabric which forms a non-rigid white finish to the face of the insulation. It will not be perfectly smooth or flat and will indent at fixing points. If a smoother, more uniform finish is preferred we can also supply IROCK PLUS with a white 0.5mm thick pure aluminium facer which offers much superior aesthetics. For more information call **1300 945 123** or email sales@bluechipgroup.net.au.

1.4 Product Description:

Non-combustible White Faced Insulation
Non-combustible as per NCC 2022, Clause C2D10(6)(g), IROCK PLUS soffit insulation is a thermal and acoustic insulation material comprising of a rigid stonewool insulation board bonded to either a non-combustible FIRESPAN facer or a pure aluminium facer. Providing an attractive white finish and high-density 10 KN/m2 compressive strength, IROCK PLUS is the safe and responsible choice for all under-slab soffit applications such as car parks, high-rise apartments and health buildings. Compared to alternative materials, IROCK PLUS produces much less smoke in a fire scenario and has superior ageing performance

Non-combustible
IROCK PLUS is deemed non-combustible when tested to AS 1530.1 and AS 1530.3 in accordance with NCC 2022, Clause C2D10(6)(g) meaning it an be used wherever a non-combustible material is required.

Moisture Resistant
Although not suitable for permanent immersion or drenching, IROCK PLUS insulation board's thermal performance will not be adversely affected by condensation or contact with liquid water.

Excellent Acoustic Performance
Along with excellent fire safety and thermal performance, IROCK PLUS also provides an excellent acoustic performance of NRC >1.0 in accordance with ISO 354-2006, an ideal solution for plant-rooms.

Light-weight & Attractive
IROCK PLUS insulation boards are very lightweight (only 100kg/m3), offering an attractive white finish ideal for exposed under-slab soffit applications such as shopping centre car-parks.

Cost-Effective
With a nominal thermal conductivity of 0.036 W/mK and a very economical price-point, IROCK PLUS offers excellent thermal efficiency for minimal upfront cost along with life-cycle energy savings for the building.

Environmentally Friendly
Largely manufactured from recycled materials and natural rock, IROCK PLUS is environmentally friendly as an initial product. It also offers numerous environmental benefits in application as thermal insulation.

NCC 2022 Compliant
NCC 2022 Clause C2D10 specifically requires all components of external walls including cladding, insulation and framing to be non-combustible and IROCK PLUS is one of only a few materials that meet this criteria.

Superior Ageing Performance
Unlike low density batts which tend to slump in vertical applications or PIR and phenolic insulation which lose thermal performance over time, IROCK PLUS is anti-slump and has excellent long-term ageing performance.

1.5 More Information:
IROCK PLUS Non-combustible White Faced Insulation

2.1 Physical Properties

ITEM	TEST STANDARD	UNIT	RESULT
Unit Weight (Density) ▪ Insulation (40-120mm) ▪ Aluminium Facer (0.5mm) ▪ FIRESPAN Facer	 Actual Actual Actual	 Kg/m3 Kg/m2 Kg/m2	 100 1.3 0.25
Board Length	Actual	mm	1200
Board Width	Actual	mm	600
Board Coverage	Actual	m2	0.72
Thermal Conductivity	ASTM C 518	W/mK	0.036
Material R-value: ▪ 40mm Thickness ▪ 60mm Thickness ▪ 80mm Thickness ▪ 100mm Thickness ▪ 120mm Thickness	 ASTM C518 ASTM C518 ASTM C518 ASTM C518 ASTM C518	 R-value R-value R-value R-value R-value	 1.11 1.67 2.22 2.78 3.33
Acoustic Performance	ISO-354 2006	NRC	1.0
Compressive Strength	ASTM C165-07	KN/m2	10
Maximum Service Temperature	Actual	Degrees	<850
Melting Temperature	Actual	Degrees	>1000
Rockwool Content	Actual	%	>95
Resin Content	Actual	%	<5
Water Absorption	ASTM C1104	%	<1.1

3.1 Fire Performance

IROCK PLUS is a deemed-to-satisfy non-combustible material when tested to AS 1530.1 and AS 1530.3 as per the requirements of NCC 2022 Clause C2D10(6)(g). Furthermore, the IROCK insulation board achieves a Group 1 rating and average specific extinction area <250m2/kg when tested in accordance with NCC 2022 Specification S7C4 to AS 5637.1. Accordingly, IROCK PLUS can be installed in either concealed or exposed applications anywhere a non-combustible material is required including in all construction types and all building classes, including in a building with or without a sprinkler system.

ITEM	TEST STANDARD	UNIT	RESULT
DTS Non-combustible	C2D10(6)(g)	-	Pass
Group Rating	AS 5637	-	Group 1
Average Specific Extinction Area	AS 5637	m2/kg	<250
Ignitability Index	AS 1530.3	-	0
Spread of Flame Index	AS 1530.3	-	0
Heat Evolved Index	AS 1530.3	-	0
Smoke Developed Index	AS 1530.3	-	0-1
Facer DTS Non-combustible	C2D10(6)(f)	-	Pass
Facer Flammability Index	AS 1530.2	-	<5

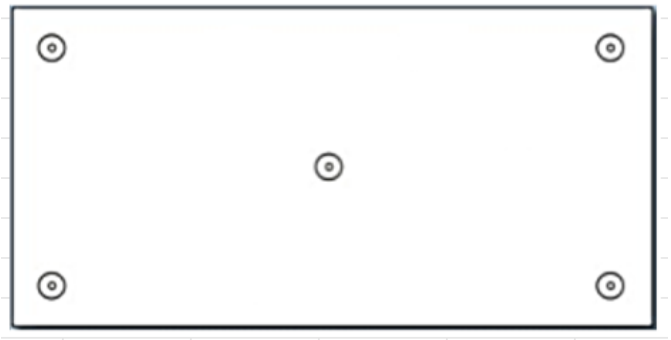
4.1 IROCK PLUS Installation in Underslab Soffit Application:

- **Important Note:** The standard IROCK PLUS facer will have approx. 25mm of over-hanging facer material at both of the 600mm board edges. This over-hanging facer material is to be tucked tightly into the joint between adjacent boards before taping over the joints. This does not apply to the premium white 0.5mm thick pure aluminium facer which will be flush with all board edges.

- IROCK PLUS 1200 x 600mm boards are fully restrained to a concrete soffit using a minimum of 5 appropriate fasteners with a minimum head diameter of 35 mm and to comply with the fixing requirements of NCC 2022 Clause C2D15.

- The fasteners should be evenly distributed over the whole area of the board and must offer a minimum 40mm penetration into a solid substrate. Alternatively, a designer can calculate the required design strength to identify a suitable embedment for the design loading of a project and/or application.

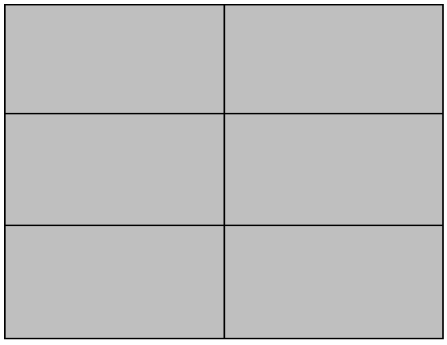
- Standard fastener layout is 1 x fasteners in each corner (no less than 50mm and no more than 150 mm from edge of board) with the addition of 1 x fastener in the middle of the board length-wise and width-wise for a total of 5 fasteners. (See below detail).

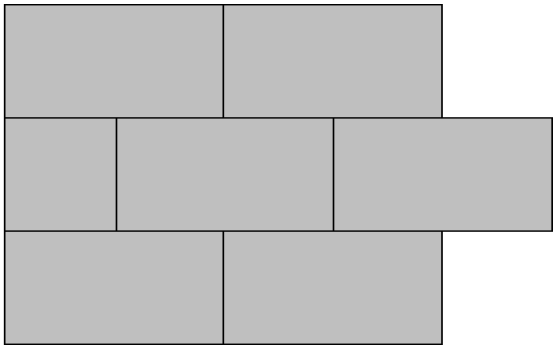


- Where the board may be subject to external wind pressure, the requirement for additional fixings should be assessed in accordance with appropriate Australian standards.

- Consideration should be given to the material the fixing is made from and should be deemed appropriate for the application, exposure and required fire rating by the fixing manufacturer.

- Board joints can be either staggered or squared (See below detail).





4.2 IROCK PLUS Installation in Underslab Soffit Application (Continued):

- Cutting should be carried out by using a sharp knife and fine-toothed saw blade. Ensure accurate trimming to achieve close-butting joints and continuity of insulation.
- For all fixing methods board joints should be taped with a minimum 48mm wide white tape carefully following all taping specific instructions below.
- Firstly, ensure that the climate conditions are suitable for the tape being used as well as the product the tape is being applied too.
- Secondly, ensure the 25mm over-hanging facer material at each 600mm board edge is tucked tightly into the joint between adjacent boards at all joints before taping.
- The surface of the IROCK PLUS insulation boards must be sufficiently cleaned to ensure that it is dry and free from dust, oil or grease to ensure long-term tape adhesion.
- The release liner on the tape should be removed 300 - 600 mm at a time and the adhesive face pressed firmly onto the insulation facing. Care should be taken not to stretch the tape tightly as this will create buckles and voids in the contact area.
- Care must also be taken to apply the tape over the centre of the join so that there is adequate area on both sides of the joint for the tape to bond. Uneven width distribution also puts additional shear stress on the smaller side of the butt joint.
- When taping a stiff plastic scraper or blade must be used to apply appropriate pressure to the tape. The tape should be wiped firmly from the centre out (like wallpaper) and the more pressure that is applied, the more surface contact will be reached, therefore, the greater the bond will be.
- The tape should then be cut and fitted with a knife and scissors. The same wiping instructions should then be used as above. In the absence of other protection, it is best practice to cover exposed board edges by a suitable foil tape with a minimum 48mm wide overlap onto the board face.
- The insulation boards shall be installed in accordance with the latest version of the Australian NCC/BCA as well as any other government regulations or requirements at any given time and for any project.