



## TECHNICAL MANUAL

### IROCK Non-combustible Insulation

1. Introduction
2. Physical Properties
3. Fire Performance
4. Installation

#### 1.1 About This Manual:

This manual has been developed to effectively assist fabricators and contractors to work with IROCK. 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 3,000,000m<sup>2</sup> 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](mailto:sales@bluechipgroup.net.au)

#### Important Note:

IROCK is typically a non-faced board. If a facer is desired for a more attractive finish, then IROCK can be supplied with a factory applied, prefinished white facer and matching joint tape. This product is called IROCK PLUS and for more information call **1300 945 123** or email [sales@bluechipgroup.net.au](mailto:sales@bluechipgroup.net.au) for further details.



## 1.4 Product Description:

### Non-combustible Insulation

IROCK non-combustible facade & cavity insulation is a thermal and acoustic stonewool insulation material widely used in both external and internal wall applications that require high levels of fire safety and thermal performance. IROCK is manufactured by spinning a molten mixture of natural rock materials and other additives to create fine wool-like fibres which are bonded together using a thermoset resin to form a rigid insulation board. Compliant with all aspects of NCC 2022 fire requirements, IROCK offers excellent long-term ageing performance and superior resistance to water absorption compared to other common insulation materials.

### Non-combustible

IROCK is deemed non-combustible when tested to AS 1530.1 meaning it is compliant for use in external walls and cladding systems which are required to be non-combustible in buildings of types A & B construction.

### Moisture Resistant

Although it is not suitable for permanent immersion or exposure to drenching, IROCK 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 also provides an excellent acoustic performance of NRC >1.0 in accordance with ISO 354-2006 providing an ideal solution for party walls.

### Lightweight & Durable

IROCK rockwool insulation boards are both lightweight and highly durable for easy hassle-free handling onsite and they can be easily cut and formed to suit almost any application.

### Cost Effective

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

### Environmentally Friendly

Largely manufactured from recycled materials and natural rock, IROCK is environmentally friendly as an initial product and offers 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 is one of only a few materials that meet this criterion.

### 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 is anti-slump and has excellent long-term ageing performance.

## 1.5 More Information:

[IROCK Non-combustible Façade & Cavity Insulation](#)



## 2.1 Physical Properties – Technical Data

ITEM	TEST STANDARD	UNIT	RESULT
Unit Weight (Density)	Actual	Kg/m3	100
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:			
▪ 30mm Thickness	ASTM C518	R-value	0.83
▪ 40mm Thickness	ASTM C518	R-value	1.11
▪ 50mm Thickness	ASTM C518	R-value	1.39
▪ 60mm Thickness	ASTM C518	R-value	1.67
▪ 80mm Thickness	ASTM C518	R-value	2.22
▪ 100mm Thickness	ASTM C518	R-value	2.78
▪ 120mm Thickness	ASTM C518	R-value	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
Mineral Content	Actual	%	>95
Resin Content	Actual	%	<5
Water Absorption	ASTM C1104	%	<1.1
Vapour Permeability	ASTM E96	-	Class 4

## 3.1 Fire Performance

IROCK, when tested to AS 1530.1, is deemed non-combustible so it can be used in all external walls and facade applications anywhere a non-combustible material is required including in all construction types and all building classes.

IROCK, when tested in accordance with NCC 2022, Specification S7C4 as per AS 5637.1, achieves a Group 1 rating and an average specific extinction of <250 m2/kg so it can be used in all exposed and concealed internal wall and lining applications, including in a building with or without a sprinkler system.

IROCK when tested in accordance with NCC 2022, Specification S7C7 to 1530.3, achieves a spread-of-flame index of 0 and a smoke-developed index <5 so it can be used in all other insulation applications.

ITEM	TEST STANDARD	UNIT	RESULT
Non-combustible	AS 1530.1	CSIRO	Pass
Group Rating	AS 5637.1	AWTA	1
Average Specific Extinction Area	AS 5637.1	AWTA	<250 m2/kg
Ignitability Index	AS 1530.3	AWTA	0
Spread of Flame Index	AS 1530.3	AWTA	0
Heat Evolved Index	AS 1530.3	AWTA	0
Smoke Developed Index	AS 1530.3	AWTA	0-1



#### 4.1 IROCK Installation in Exterior Insulated Facade Applications:

- Install ULTRAPERM vapour permeable membrane which is; deemed-to-satisfy 'non-combustible' as per NCC 2022 Clause C2D10(6)(f), is AS 4200.1 compliant and classified as a 'water barrier' as per NCC 2022 Clauses F3D3 and F8D3(1), is classified as 'class 4 vapour permeable' for compliant use in all climate zones 1-8 as per NCC 2022 Clauses F8P1 and F8D3(2), in accordance with AS 4200.2 for deemed-to-satisfy weatherproofing over the structural wall element.
- Install BICEP brackets to the external side of the structural wall as required.
- Fit the IROCK insulation boards over and around the BICEP brackets cutting slits in the insulation boards as required so that the insulation is up against the structure and the BICEP bracket is protruding through.
- Butt join the IROCK insulation boards to provide a continuous insulation layer tight against the external side of the structure. Fix the IROCK to the structural wall using suitable fasteners supplied by others and with a minimum 2 fasteners per board
- Install the BICEP support profiles into the BICEP brackets and if necessary, cut a slit in the insulation for the BICEP support profile to slide into taking care as above.
- Install the cladding system direct to the BICEP support profiles or install STUDTEK steel sub-framing system to the BICEP support profiles before installing the chosen cladding in accordance with all manufacturer's instructions.
- 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.

#### Important Information:

The instructions in this brochure are for illustration purposes only and are not meant to replace a licensed professional. Any construction or use of the product must be in accordance with all local zoning and/or building codes. The consumer assumes all risks and liability associated with the construction or use of this product. The consumer or contractor should take all necessary steps to ensure the safety of everyone involved in the project, including, but not limited to, wearing the appropriate safety equipment. Except as contained in a written warranty, the supplier does not provide any other warranty, either express or implied, and shall not be liable for any damages, including consequential damages.





#### 4.2 IROCK Installation in Double Brick Cavity Application:

- Construct the inner leaf to at least an appropriate level to allow installation of IROCK insulation boards to proceed.
- Remove excess mortar and mortar droppings from exposed edges of any installed IROCK insulation boards.
- Measure and create holes in the IROCK insulation boards as required to allow for wall ties to protrude through.
- Apply the IROCK insulation boards to the external face of the internal leaf and secure in place using the wall ties and IROCK universal retaining clips.
- If IROCK is being relied upon to create a water barrier in accordance with AS 3700 requirements install a layer of ULTRAPERM membrane over the IROCK in accordance with AS 4200.2. Tape around the wall ties and along all the ULTRAPERM membrane joints with ULTRAPERM high-tack tape.
- When taping a stiff plastic scraper or blade must be used to apply appropriate pressure to the tape. Surfaces must be sufficiently cleaned to ensure they are dry and free from dust, oil, or grease to ensure long-term tape adhesion.
- The outer leaf is then built up to the level of the top of the IROCK insulation boards and the above process is repeated until the full height of the wall is reached.
- 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.

#### Important Information:

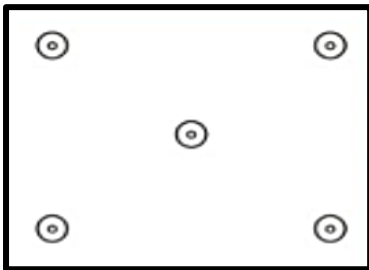
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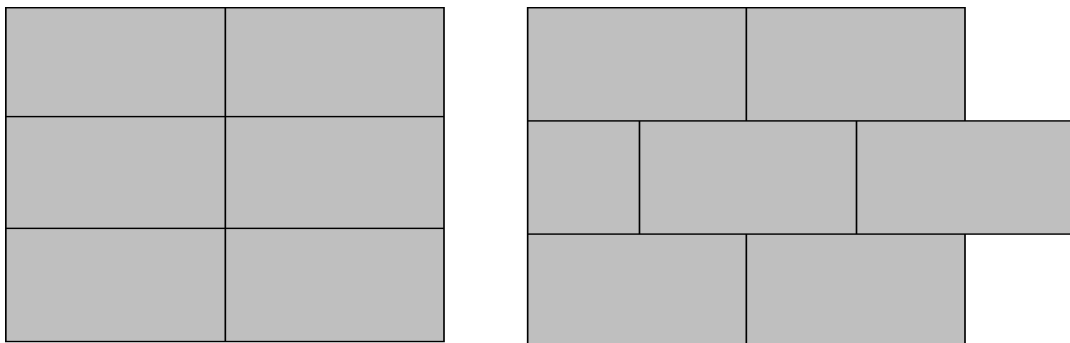


#### 4.3 IROCK Installation in Soffit Applications (Exposed or Concealed):

- IROCK insulation boards can be fully restrained to a concrete soffit using appropriate fasteners with a minimum head diameter of 35 mm.
- The fasteners should be evenly distributed over the whole area of the board and must offer a minimum 40 mm 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 the corner of each board (no less than 100mm and no more than 150mm from edge of board) with additional 1 x fasteners in the middle of the board for total of 5 fasteners per 1200 x 600mm board (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).



- Cutting should be carried out by using a fine-toothed saw or with a sharp knife ensuring accurate trimming to achieve close-butting joints and continuity of insulation.

#### Important Note:

If the soffit insulation is exposed and a facer is desired for a more attractive finish (applications such as a shopping centre carpark or internal ceiling) then IROCK can be supplied with a factory applied, prefinished white facer and matching joint tape. This product is called IROCK PLUS and for more information call **1300 945 123** or email [sales@bluechipgroup.net.au](mailto:sales@bluechipgroup.net.au) for further details.



#### 4.4 IROCK Installation in Internal Frame Wall Lining Applications:

- If IROCK is being relied upon to create a water barrier, install ULTRAPERM vapour permeable membrane which is; deemed-to-satisfy 'non-combustible' as per NCC 2022 Clause C2D10(6)(f), is AS 4200.1 compliant and classified as a 'water barrier' as per NCC 2022 Clauses F3D3 and F8D3(1), is classified as 'class 4 vapour permeable' for compliant use in all climate zones 1-8 as per NCC 2022 Clauses F8P1 and F8D3(2), to the inside of the structural wall in accordance with AS 4200.2.
- Install suitable furring channel clips at required spacings for chosen lining.
- Fit the IROCK insulation boards over furring channel clips by pushing over the clips to touch the wall, and so that the wings of the clips penetrate the internal side of the insulation board. Care should be taken to avoid the fibre structure of the IROCK insulation boards separating by neatly trimming with a sharp knife where the furring channel clip will penetrate the insulation.
- Butt join the IROCK insulation boards to provide a continuous insulation layer tight against the internal side of the wall.
- Install furring channels by clipping into channel clips. Furring channels should be tight against the internal face of the IROCK insulation boards.
- Install the chosen interior lining material to the furring channels as per manufacturer's instructions.
- 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.

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