TECHNICAL MANUAL
IBOARD MAX Phenolic Foam 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 IBOARD MAX. 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:
If non-combustible insulation is required, such as in the external walls of type A or B construction buildings, or for use in exterior façade systems use IROCK non-combustible insulation instead. If a Group 1 or non-combustible exposed internal lining is required, such as underslab soffit insulation, then use IROCK or IROCK PLUS.

BLUECHIP
Insulation Products

1.4 Product Description:

Phenolic Foam Insulation
IBOARD MAX is a rigid insulation board composed of a very low thermal-conductivity phenolic foam core with a low-E, gas-tight reflective foil facing on each side. Tested for fire compliance in accordance with AS 1530.3 and AS 5637.1 for concealed and exposed applications, IBOARD MAX phenolic foam insulation provides superior fire safety and higher R-values from less thickness, resulting in better building performance, thinner wall build-ups and increased floor area. IBOARD MAX phenolic foam insulation is widely used in cavity-walls and under-slab soffit applications where it delivers exceptional thermal performance.

Group 2 Fire Rating
When tested as per AS 5637.1 and NCC 2022 requirements, IBOARD MAX phenolic foam achieves a Group 2 fire rating for compliant use in exposed applications such as under-slab cap park soffits.

Excellent Fire Safety
With a Group 2 rating, IBOARD MAX phenolic foam exceeds the minimum smoke requirements of NCC 2022, Specification S7C4 by over 250 times, demonstrating excellent fire safety.

100% Fibre-free
Unlike some other insulation products, IBOARD MAX phenolic foam insulation is 100% fibre-free meaning more comfortable working conditions, cleaner air onsite and long-term health benefits.

Thinner is Smarter
Because phenolic foam is one of the best performing insulation materials available, required R-values can be achieved with less thickness meaning thinner walls and more floor area.

Construction Efficiencies
With a light-weight density of <50kg/m3 and large 2400 x 1200mm boards, IBOARD MAX insulation provides outstanding efficiency during transporting, handling onsite and installation.

Environmental Leader
Not only does IBOARD MAX reduce energy consumption in the building through its life, it also creates much greater insulating outcomes using less raw materials for environmental sustainability.

Clear Cavity & Extra R-value
When IBOARD MAX is used in a walls, a clear gap is maintained for services such as electricity and the low-emittance foil can also contribute additional R-value when facing towards the cavity.

Best Value Proposition
As with all our product range, our manufacture-to-industry direct supply chain (no middle man) means that IBOARD MAX phenolic foam insulation provides the best possible value proposition.

Important Note:
If non-combustible insulation is required, such as in the external walls of type A or B construction buildings, for use in exterior façade systems or non-combustible exposed internal lining is required, such as underslab soffit insulation, then use IROCK or IROCK PLUS.

1.5 More Information:
IBOARD MAX Phenolic Foam Insulation

BLUECHIP
Insulation Products

2.1 Physical Properties – Technical Data

ITEM	TEST STANDARD	UNIT	RESULT
Unit Weight (Density)	Actual	Kg/m3	<50
Thermal Conductivity	ASTM C518	W/mK	0.023
Thermal Conductivity	AS 4859.1	W/mK	0.023
Emittance of Foil Facings	ASTM E408-71	E	0.05
Material R-value			
▪ 25mm Thickness	AS 4859.1	R-value	1.10
▪ 40mm Thickness	AS 4859.1	R-value	1.75
▪ 50mm Thickness	AS 4859.1	R-value	2.17
▪ 60mm Thickness	AS 4859.1	R-value	2.61
▪ 70mm Thickness	AS 4859.1	R-value	3.04
▪ 75mm Thickness	AS 4859.1	R-value	3.26
▪ 85mm Thickness	AS 4859.1	R-value	3.70
▪ 90mm Thickness	AS 4859.1	R-value	3.91
▪ 100mm Thickness	AS 4859.1	R-value	4.35
▪ 110mm Thickness	AS 4859.1	R-value	4.78
▪ 120mm Thickness	AS 4859.1	R-value	5.22
Compressive Strength			
▪ 10% Deformation	AS 2498.3	kPa	>100
Dry Delamination	AS 4201.1	-	Pass
Wet Delamination	AS 4202.2	-	Pass
Surface Corrosion	AS 4859.1	-	Pass

3.1 Fire Performance – Wall and Ceiling Linings:

IBOARD MAX is compliant as an exposed wall or ceiling lining (including in a building with or without a sprinkler system) as per NCC 2022, Specification S7C4 (below) and, regarding specific locations, Table S7C4. It is also compliant in all concealed applications as per Specification S7C7:

ITEM	TEST STANDARD	UNIT	RESULT
Group Rating	AS 5637.1	-	2
Average Specific Extinction	AS 5637.1	m2/kg	<250
Spread-of-flame Index	AS 1530.3	-	0
Smoke-developed Index	AS 1530.3	-	3

NCC 2022, Specification S7C4 Extract:

S7C4 Wall and ceiling linings

[2019: Spec C1.10: 4]

(1) A wall or ceiling lining system must comply with the *group number* specified in Table S7C4 and for buildings not fitted with a sprinkler system (other than a FPAA101D or FPAA101H system) complying with Specification 17 have—

(a) a *smoke growth rate index* not more than 100; or

(b) an *average specific extinction area* less than 250 m^2/kg.

(2) A *group number* of a wall or ceiling lining and the *smoke growth rate index* or *average specific extinction area* must be determined in accordance with AS 5637.1.

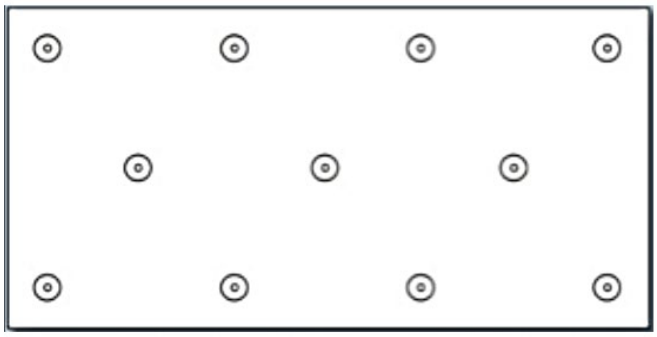
4.1 IBOARD MAX Installation in Double Brick Cavity Application:

- Construct the inner leaf to at least an appropriate level to allow installation of IBOARD MAX insulation boards to proceed.
- Remove excess mortar and mortar droppings from exposed edges of any installed IBOARD MAX insulation boards.
- Measure and create holes in the IBOARD MAX insulation boards as required to allow for wall ties to protrude through.
- Apply the IBOARD MAX insulation boards to the external face of the internal leaf and secure in place using the wall ties and IBOARD MAX universal retaining clips.
- Tape around the wall ties and along all the IBOARD MAX insulation board edges and joints with INSULTAPE Reinforced Foil Tape to ensure the phenolic core is not exposed.
- 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 IBOARD MAX 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.

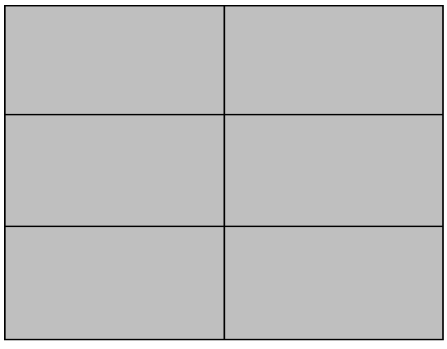
Important Information:
The instructions in this brochure are for illustration purposes only and are not meant to replace a licensed professional. Any construction or use of the product must be in accordance with all local zoning and/or building codes. The consumer assumes all risks and liability associated 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.

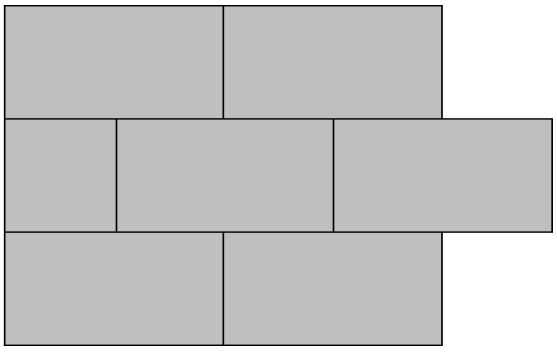
4.2 IBOARD MAX Installation in Soffit Applications:

- IBOARD MAX insulation boards can be fully restrained to a concrete soffit using a minimum number of 11 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 4 x fasteners along each length (no less than 50mm and no more than 150 mm from edge of board) with additional 3 x fasteners along the middle of the board length-wise for total 11 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).





- Cutting should be carried out by using a fine-toothed saw or by scoring with a sharp knife, snapping the board over a straight edge and then cutting the facing on the other side. Ensure accurate trimming to achieve close-butting joints and continuity of insulation.
- For all fixing methods board joints should be taped with a minimum 96 mm wide foil tape carefully following all taping specific instructions below (See next page).

4.2 IBOARD MAX Installation in Soffit Applications: (Continued):

- Firstly, ensure that the climate conditions are suitable for the tape being used as well as the product the tape is being applied too.
- The surface of the IBOARD MAX 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 with a suitable foil tape with a minimum 48 mm wide overlap onto the board face to ensure the phenolic core is not exposed.
- 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.

4.3 IBOARD MAX Installation in Frame Wall Lining Applications:

- Install suitable furring channel clips at required spacings for chosen lining.
- Fit the IBOARD MAX 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 foil facing of the IBOARD MAX insulation boards separating from the insulation core by neatly trimming the foil face where the furring channel clip will penetrate the insulation.
- Butt join the IBOARD MAX insulation to provide a continuous insulation layer against the internal side of the wall. Tape all edges to ensure the phenolic core is not exposed.
- It is considered best practice to tape around the channel clips and along all the IBOARD MAX insulation board joints with INSULTAPE Reinforced Foil 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.
- Install furring channels by clipping into channel clips. Furring channels should be tight against the internal face of the IBOARD MAX insulation boards.
- Install the chosen lining 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.

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.