



During the Lean In session, several questions were asked by attendees. Bondor are pleased to provide further detailed responses to these questions below.

Does this sort of system require a Performance Solution in regard to satisfaction of the BCA for Building Permits?

We have CodeMark certificate of conformity for all our products and refer you to the individual CodeMark certificate for each product: <https://bondor.com.au/codemark>

On the first page of these certificates there is a list of NCC clauses that each product is deemed to satisfy as well as those requiring a performance solution.

Can these panels be used for wall cladding?

Yes, the roofing panels can and are used for walling to achieve a different aesthetic. There are of course a wide range of insulated sandwich panels that are specifically designed for walling systems as well. Please check out our range of wall panels at <https://bondor.com.au/insulated-panel-products/insulated-wall-panel>

A question regarding BAL is actually radiant heat. I cannot find information as to the integrity of the core. the general answer around BAL qualifications seem to be that it does not combust.

AS3959 does not place conditions on the insulation. Requirements are placed on the external most lining material under BAL-12.5 to BAL-40 to be of steel sheeting. Systems complying with BAL-FZ are to be tested to AS 1530.8.2 OR achieve a Fire Resistance Level of at least (30)/30/30. All Bondor Products meet the requirement of BAL-12.5 to BAL-40 as long as all exposed cores are fully encapsulated as detailed by Bondor. Our Flameguard and Luxewall Flameguard products as well as 200mm MetecnoPanel meet the requirements of BAL-FZ.

Hail damage. Insulated vs. non insulated?

As answered by Glen – Insulated panel due to its composition has greater impact resistance than single skin steel, just as single skin steel performs better than tiles /slate. If the hail stones are large enough and the force is great enough then you will get some dents.

Perhaps a silly question as I know very little in regards to this, but, how sustainable are roofing products at the moment? Can they be easily recycled; are there things I should look for if I do want something recyclable/reusable? How do they fare compared to older systems such as wood + mud roofs?

Yes, insulated panel systems are recyclable. The steel and core can be separated and there are processes for recycling these – for example the EPS-FR core material can be melted down and reused. The Bondor group is currently working on a major research project with the University of Melbourne to further improve the opportunities for recycling of core materials e.g. EPS-FR and PIR and plastic in general regardless of whether it comes from a production run or from recycled product.

How are large openings e.g. skylights in the insulated roofing panels cut? Also can conduits for wiring be installed inside the panels?

Yes, skylights can be used with insulated panel. As discussed, EPS-FR panel such as InsulWall does have rebates for running conduit etc through. Check out the website.



How do you detail box gutters with a panel roof? The flashing detail would presumably get deeper proportional to panel depth.

The MetecnoSpan Technical Drawing Brochure details both insulated & non insulated box gutters... most projects to date have not added the insulated panel to the box gutter installation but the option is certainly available.

Can you use box gutters and solar tubes?

Yes, box gutters are regularly used in panel roofing installations, very similar to that of single skin installations. Solar tubes can also be fitted to insulated panel roofing, again the installation process is similar

Can you quickly ask them about can the core melt and cause collapse even though it is fire rated. I recall some concerns from the UK around this.

Different core materials behave differently. EPS-FR melts away from the heat source i.e. the flame, and then self-extinguishes, PIR core chars and remains in place, mineral wool core is non-combustible. All core materials in conjunction with their steel facing have passed various level of Australian Standards etc for fire and are suitable for use in various situations. One way to check what core is suitable for which end use is to use the cladding specification tool on the Bondor website that assesses intended use against the NCC, or feel free to contact us directly either at our head office technical team or our business in your State. Fortunately, we manufacture using the three globally accepted core materials of EPS-FR, PIR and Mineral Wool so we can offer impartial advice about which core is suitable for a given situation and we have manufacturing operations in all Australian States.

Are there long-term studies on the performance of the insulation adhesive. i.e. 20 years without delamination.

The only long-term study we are aware of is practicality. ISP's have been in use in Australia for over 60 years and there are a number of buildings in the 50 plus age group. An interesting (and slightly different example) is the Bicentennial Conservatory in the Adelaide Botanic Gardens. Designed by local architect Guy Maron which has won awards for its design, engineering and landscaping. It was constructed in 1987 and at 100 metres long, 47 metres wide and 27 metres high making it the largest single span conservatory in the southern hemisphere. Delamination relates to bond strength, if it was an issue it would more likely be seen in the first few weeks/ months rather than after years.

Why do more people not use roofs as walkable, accessible space for the public/private? Roughly how much more does it cost?

Insulated panels are strong and rigid roofing materials. Rib profiles are required if they are to serve their function to adequately carry water in roofing applications. This makes them difficult/uncomfortable to walk on. They are tested and designed to relevant Australian Standards. For roofing products, in addition to uniformly distributed pressure, the Standards call for point load testing for occasional foot traffic during maintenance. To use them as "flooring" other load configurations including creep need to be considered. The cost of panel roofing can range from approx. \$55 - \$100 M² depending on core type & panel thickness.

Do you need a specific product for coastal areas?

Our recommendations for coastal locations are in line with BlueScope Steel's recommendations. Colorbond Ultra, using a higher grade of steel substrate coating (zinc/alum) improves corrosion resistance but more importantly a regular wash-down regime is paramount. In specific cases we can use alternative facings such as stainless steel or aluminium.