



## Issues Designing the Future

Today, more and more Australians are looking for 'green' cleaning products, heating sources, food choices and even building materials. As awareness grows about the dangers of toxic emissions from paints, adhesives and polymer composites, such as particleboards, builders and householders are looking for more environmentally friendly and healthier building products and construction methods. As social and environmental issues raise consumer's consciousness – responsible resource use leads product innovation.

AMPAN is such a product. It is a new Australian Made Panel-board made from a totally renewable resource using non-toxic, inert resins. The result is a building panel that has zero harmful emissions, withstands high flammable temperatures, and possesses all the wood-working and finishing qualities of seasoned timber.



AMPAN can be manufactured to different specifications ranging from board that meets standard building requirements to that which tolerates the most aggressive environment. AMPAN can be made specifically for wet-area construction as well as for outdoor use which even tolerates tropical conditions. All AMPAN board is considerably lighter than conventional MDF and chip-board.

## Tomorrow's Timber Today

Not only does this 'dolphin-friendly' panel-board make good health sense, because it is made from rice stubble, its production would allow native and plantation forests to be conserved.

At present, rice stubble is a waste product of rice farming and is usually burnt in the field after harvest. The burning of stubble is becoming an untenable practice due to an increasing need to reduce greenhouse emissions. The productive use of rice stubble would also allow farmers to maximise the value per megalitre of the areas' irrigation water. Thus, the commercial use of rice stubble in AMPAN achieves both a socially responsible outcome as well as providing farmers with a farm gate market for a 'waste' product.

Panel-boards currently available in Australia are made from wood chips harvested from plantations grown specifically for the purpose, using adhesive resins containing potentially harmful substances. The use of rice stubble in AMPAN also allows plantation timber to be diverted into the production of higher value products. AMPAN represents many health and environmental benefits not seen in the existing panel-board currently available on the market.

*Australian Made Panel*

## Funding the Future

In collaboration with CSIRO and RMIT, further research and product development is being undertaken. The principle investor in AMPAN to date has been its inventor, John Gorman – a rice farmer from Coleambally, NSW. The next R&D round will focus on the development and optimisation of the panel-board's composition and its production process.

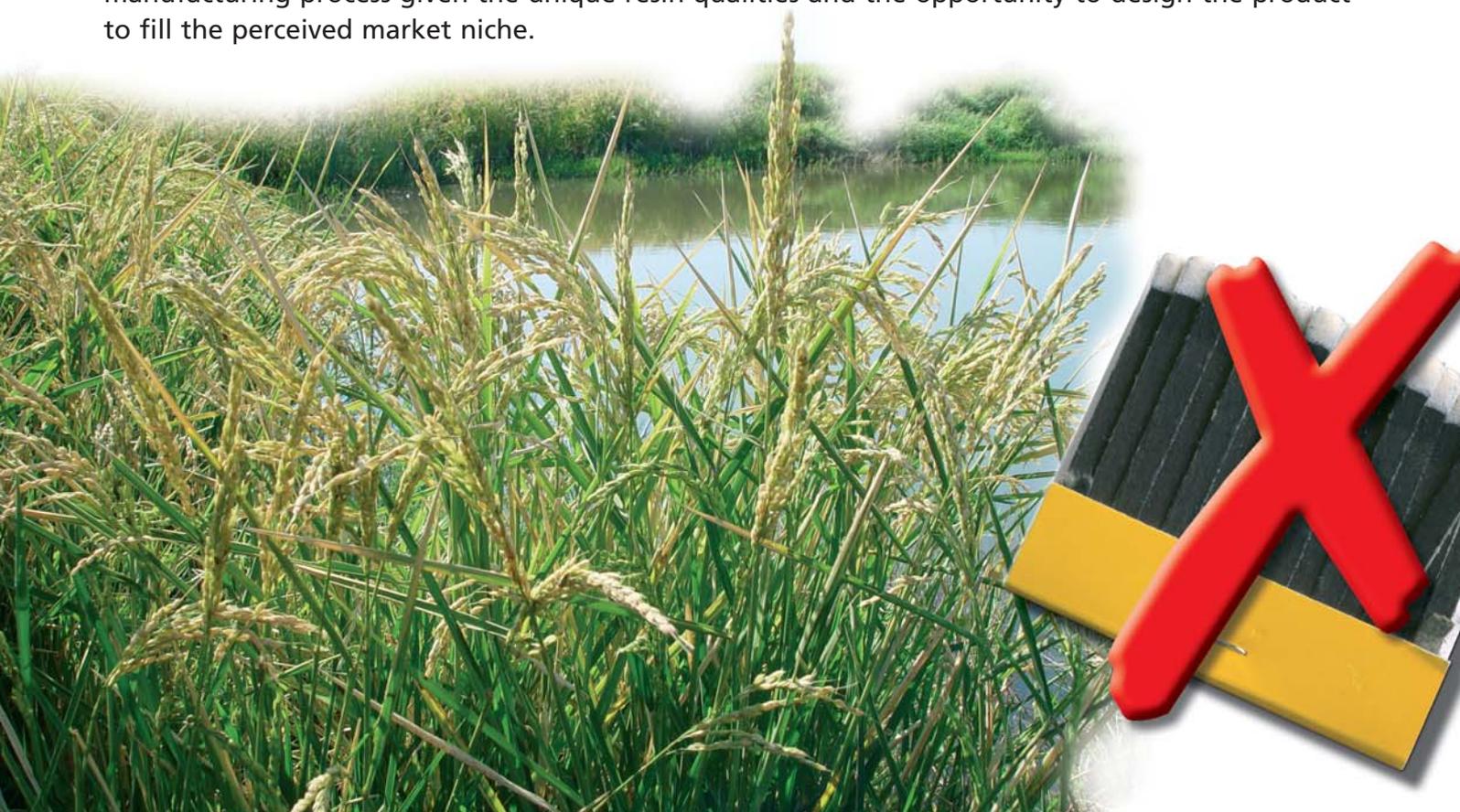
## Production and Market Considerations

Producing a fibre panel from rice stubble represents an opportunity to use a waste item from the rice production process. This produces a farm gate value added product and reduces waste. The utilisation of rice straw is becoming increasingly important for the rice industry for two reasons – firstly, the continued practice of burning stubble after harvest is becoming untenable and, secondary, the need to demonstrate an increased value for each mega-litre of water used is urgently required by the industry. Farmers will now be able to implement a nil burn policy and will have the ability to diversify without purchasing new machinery.

The particle board market in Australia is approximately 900,000 cubic metres per annum, while the MDF market size is approximately 550,000 cubic metres per annum. The Coleambally Irrigation Area annually produces in excess of 200,000 tons of stubble. This is a totally renewable resource for the production of fibre panel. The proposed particle board mill will be at Coleambally and will utilise the ready availability of stubble as well as being close to transport to major centres.

Product demand has been nationally researched, particularly in the areas of Griffith, Leeton Narrandera, Albury and Wagga, where it was positively received. There was enthusiasm from wholesalers, joiners, fabricators and end users, who say AMPAN is a healthy and environmentally friendly product.

This product specification and target is the result of many interviews with builders/joiners and furniture manufacturers in the Riverina and discussions with the CSIRO on how to optimise the manufacturing process given the unique resin qualities and the opportunity to design the product to fill the perceived market niche.





## Product Benefits

The proposal under consideration is market driven, and as a result the board to be produced is neither standard particle board or MDF but rather a high moisture resistant particle board with fine particle structure. This means that it is suitable for wet area construction and for those items of furniture manufacture normally the domain of MDF.



Particle sizes are larger than other particle boards, thus reducing dust inhalation problems for end users, for example the handyman, carpenters and builders.

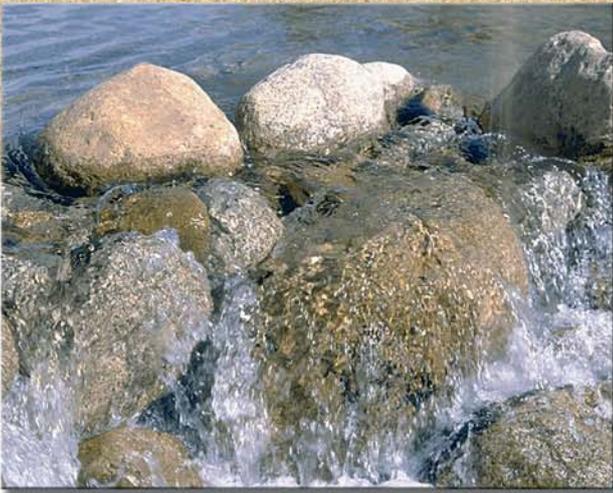


The resin used does not have any of the health impacts associated with other binding agents. There are no Volatile Organic Compounds (VOC) used as all materials are natural and non-allergenic. The resin is a CSIRO proprietary formulation which avoids the known health problems associated with standard particle boards and medium density fibre boards which give off formaldehyde emissions. The use of the MDI family of resins, known to be carcinogenic in vapour form, is also avoided. The nil emissions of the product will not add to a Sick Building Syndrome (SBS).



This product has the structural integrity to meet Australian standards for panel-board. AMPAN can produce panel-board as required by the market! Products range from standard panel, wet areas panel, through to panel which tolerates extreme temperatures and the most aggressive environment. AMPAN in all these classes of products is considerably lighter than MDF or chip-board.

*materially*



## AMPAN's Benefits

Production of AMPAN realises the following benefits to farmers and the wider community:

- Farmers will receive greenhouse gas credits calculated on every hectare of un-burnt stubble that is used in production of AMPAN.
- Farmers will be paid per tonne for stubble selected for production of AMPAN and have it removed from their field at no cost.
- Every hectare of rice grown can yield 7 tonnes of stubble and therefore produce 7 tonnes of AMPAN.
- Production is totally and consistently based on an annually renewable resource.
- Unlike standard chip-board or MDF, production of AMPAN does not rely on the growth period of renewable timber which is 12-15 years.

AMPAN recognises  
the environment • health • irrigation • conservation  
• rural, social, civil and national benefit •

**Rice ... feeding and housing us now and in the future!**

*AMPAN gratefully acknowledges the assistance of, including the supply of photographic images, the Coleambally Irrigation Area, the CSIRO and SunRice.*

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