

Building Australia Responsibly

Weathertex Timber Cladding



Introduction

When designing the external facade of a building there are several key requirements to take into account - the building products used must be aesthetically pleasing, functional, adhere to building principles and regulations and stand the test of time and the elements. Particularly in our often harsh Australian climate, care must especially be given to the durability of a product and to reducing ongoing maintenance. Other factors that should be taken into account that will be explored in this article include environmental responsibility, insulation and acoustic properties, ease of installation and adherence to construction timelines, as well as safety with regards to fire and the health of those working with the product. Timber cladding is widely considered to satisfy these requirements and is commonly specified by architects and builders. Timber cladding is used to protect and beautify a structure and can broadly be defined as a reconstituted timber building material that is affixed to the external or internal walls of a building, achieving both a functional component and a decorative finish. The many and varied advantages of timber cladding are discussed within this document.



Environmentally Responsible Building Practices

As Australia grows, so too does the need for the construction of increased amounts of single dwelling, multi residential and commercial structures to guarantee the requirements of our ever growing population are met. Our construction industry must act responsibly to ensure that this growth in the sector has as little impact on the environment as possible. Specifying sustainably manufactured products is key, with attention paid to their environmental impact

and carbon footprint. Climate change mitigation is imperative both in Australia and globally. Timber is one of the only building materials that are completely sustainable. Timber cladding is proven to be more environmentally friendly to manufacture compared with other building materials, such as fibre cement products and requires the use of far less fossil fuels. Timber cladding wastage can be mulched and recycled effectively once it reaches the end of its lifespan.

Insulation and Acoustic properties

Timber is a great natural insulation material, with its inherent heat reflective and sound absorptive qualities. A building's energy efficiency may be increased by combining timber cladding with other types of insulation methods, leading to cost efficiencies in the long term. Clad buildings rely less upon thermal mass, meaning that these structures are less sensitive to

site orientation and positioning of windows, which can expedite and simplify design. Timber also reacts rapidly to both heating and cooling, reducing a building's energy consumption. Timber is a natural insulation material, with fantastic acoustic characteristics. The sound absorptive qualities of timber cladding aids in reducing exterior noises penetrating internally.

Structural advantages, durability and ease of installation

Current construction trends are leaning towards products that are easy to install, lessen impact to construction timelines, ensure material longevity and require minimal on site work. As a flexible building material, timber cladding can be used on a variety of foundation conditions. Its lightweight construction means timber cladding can decrease the need for bulky masonry walls and requires smaller footings as load is reduced. Another advantage is that the panels are lightweight enough for one person to handle. This adds to its ease of installation and its contribution towards shorter construction timelines. Timber panels promote efficiency of installation, facilitating on-time and on-budget execution of a project. Most notably,

unlike many other types of cladding products including fibre cement, timber panels do not require a special set of tools for cutting, allowing carpenters and builders to use their standard tools, thus reducing associated costs and loss of time. Unlike their cementitious counterpart, installing timber cladding does not require changing over of blades on tools. Product can be cut on site and even indoors, with no hazard to safety. Some timber cladding products, such as those manufactured by Weathertex, can be used in conjunction with brad nails, achieving a more seamless finish aesthetically.¹ Timber cladding panels allow for rapid construction of a building's facade and reduced materials handling and scaffolding.



Timber cladding panels allow for **rapid construction** of a building's façade



Fireproofing and Bushfire regulations for walls

Australian standard AS3959 - Construction of buildings in bushfire-prone areas outlines housing design and thermal resistance guidelines in bushfire prone areas.² The National Construction Code 2015 Part 3.7 discusses minimising the spread of fire and denotes 6 Bushfire

Attack Levels (BAL).³ Weathertex timber cladding products satisfy construction requirements for BAL - Low, BAL - 12.5 and BAL - 19 construction levels. With a density of $>990 \text{ kg/m}^3$, Weathertex products surpass the 750 kg/m^3 minimum density specified in the standard.

Aesthetics and design

Timber's first and foremost benefit over other methods of cladding is its natural beauty. Its versatility of form lends itself to use in both traditional and contemporary design. It can be used to clad the entire exterior, or as a feature component on a building using composite materials.

The look that is achieved is a lighter and more streamlined appearance that adds a natural element to the aesthetic of the structure and compliments the surroundings and environment far better than traditional brick masonry or contemporary fibre cement products. Timber cladding is available in a range of profiles, textures and finishes, allowing architects adaptability of form and fluidity of design. The surface of the timber cladding panels is pressed to create a wood grain effect reminiscent of the natural timber that it is created from.

Timber cladding provides an excellent base for painting and can be used in conjunction with an exterior 100% acrylic topcoat or solvent base paint system. Low sheen acrylic finishes are generally recommended for the most seamless finish and, when used in conjunction with the selection of light paint colours, can lead to better thermal efficiency and appearance retention. Undressed, unprimed boards are also available, mimicking the appearance of raw timber, but with the benefits of the reconstituted variety. The natural surface can be oiled to maintain the look of fresh, brown timber or, if left unstained, the timber cladding will weather and age naturally, attaining an earthy aesthetic. Although visual design is imperative, architects and specifiers are tasked with prioritising usability and selecting products that will also meet construction time restraints and costs, making timber cladding a standout product.



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Weathertex is the market leader in Timber Cladding

When specifying timber cladding, it is wise to seek Australian made products that offer a generous warranty. Weathertex timber cladding is the environmentally conscious, high quality solution - manufactured in Australia from Australian timber resources and boasting a 'better than zero' carbon footprint.⁴ This is achieved as "the trees used to produce Weathertex cladding have sequestered sufficient carbon dioxide during their growth to counter any carbon dioxide equivalent emissions produced at the Weathertex factory during its manufacture." Furthermore, "when timber is used to produce building products, the carbon stored in the timber cells remains locked up in the timber for the life of the product."⁵

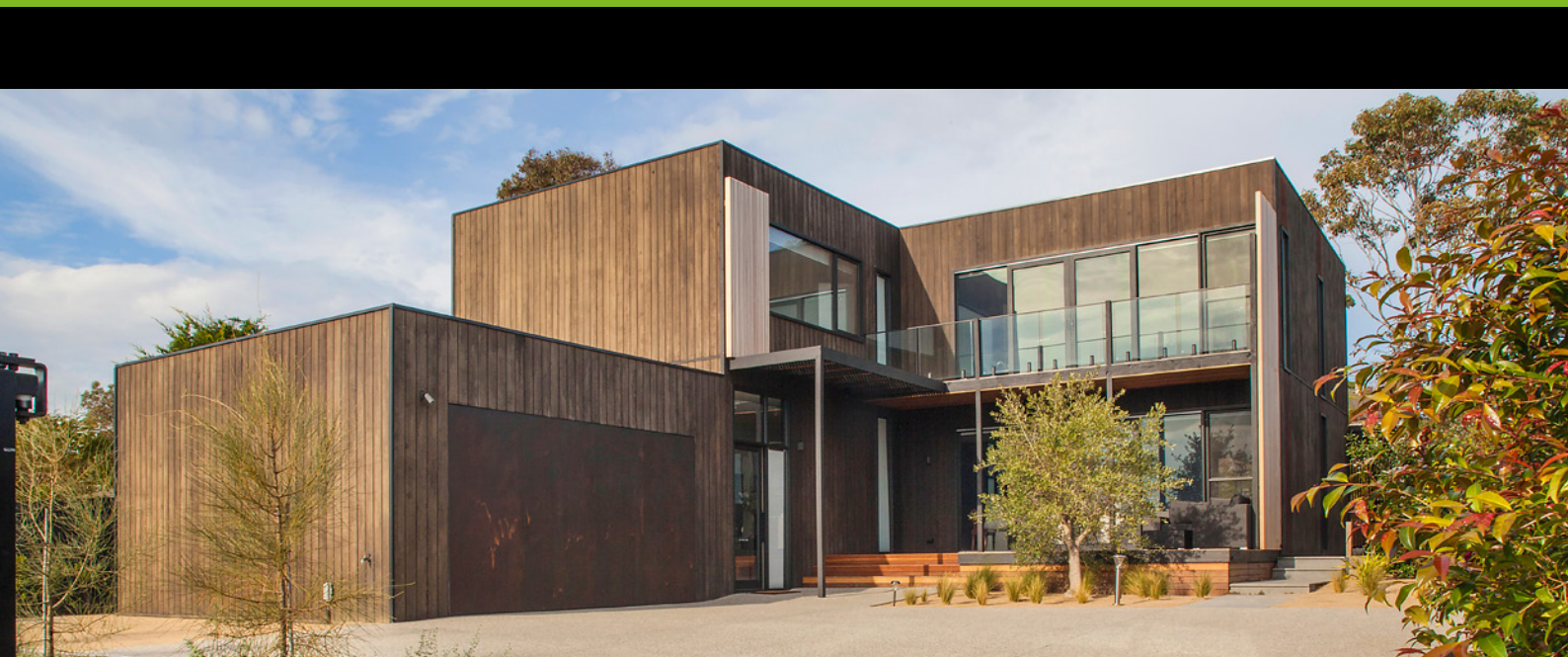
Weathertex timber products contain absolutely no artificial glues or binders, making them unique in the world and a standout in the market. Additionally, the primer applied to Weathertex cladding is a waterbased acrylic and as a natural timber product, Weathertex can be cut, shaped, drilled and handled without concern for being exposed to hazardous chemicals. Please see the Material Safety Data Sheet (MSDS) issued by Weathertex Pty Ltd in accordance with Worksafe Australia Guidelines.⁶

Other key features to note are the measures taken by Weathertex to mitigate the possibility of mould or termites in your structure. Thermal treatment using a high temperature and pressure steam process destroys mould and fungal spores naturally present in the pulp wood. Although Weathertex is a timber product, it surpasses other natural timbers such as Mahogany and Blackbutt in its performance against

termites. Although no building structure or building product is entirely immune to the possibility of termites, results of studies carried out in a method developed by the CSIRO⁷ have shown that Weathertex is far less attractive to termites than natural unreconstituted timber products. Through their manufacturing process, Weathertex boards are removed of the sugar and starch components that draw termites. Weathertex boards are pressed hardboards that are made from wood fibres, which are reunited under heat and pressure. Durable hardwood timber species undergo an explosive defibration and mechanical refining process, which removes most of the hemicellulose, the easiest timber component for termites to digest.

Weathertex products are available in weatherboards or architectural panels suitable for use internally, externally and in both residential and commercial applications. All Weathertex products are made from certified state forest or private hardwoods in Australia, without any chemical additives. As a trusted Australian brand, Weathertex creates products that are 100% natural, made up of 97% timber and 3% wax and guaranteed not to rot, split or crack for 25 years.

With regards to environmental responsibility and consciousness, Weathertex products are derived from sustainably managed forests and controlled sources audited under the Australian Forestry Standard (AFS) and Certified by PEFC - the world's largest forest certification scheme. Moreover, Weathertex is committed to continual improvement by developing and enhancing operations to further reduce environmental impacts in manufacturing and construction.



REFERENCES

- ¹ <http://www.architectureanddesign.com.au/suppliers/weathertex/award-winning-design-and-construction-company-uses>
- ² <http://www.royalcommission.vic.gov.au/getdoc/2d486ba8-2cef-45a1-9f3c-6e058ec8a78a/WIT.3000.002.0108.PDF>
Appendix E, Table E1. Table1: Timber stud wall - lightweight cladding
- ³ Building Code of Australia NCC 2015 Volume 2 Housing Provisions© 2015 Australian Government and States and Territories of Australia
<http://www.abcb.gov.au/ncc-products>
Table SA 3.7.4.1 Construction requirements
- ⁴ <http://www.weathertex.com.au/media/130069/cpd-timber-and-the-low-carbon-economy-060313.pdf>
- ⁵ http://www.weathertex.com.au/media/7474/wtex_fact-sheet_proof9.pdf
- ⁶ <http://www.weathertex.com.au/media/52395/Safety-Data-Sheet.pdf>
- ⁷ http://www.weathertex.com.au/media/7474/wtex_fact-sheet_proof9.pdf subheading Weathertex and Termites

