

# THINKING LONG TERM: EVALUATING DECKING MATERIALS



## INTRODUCTION

An attractive, durable deck is a must-have feature for many homes, whether it is installed around a pool or at the front or back of a house.

There are several popular decking materials available, including timber, composite, powder-coated aluminium, fibre cement or tile decking – but to determine the most appropriate choice when constructing a deck, builders and homeowners alike must consider a number of factors.

Cost is a significant factor in many building decisions – but cost alone is insufficient to determine whether a deck will service the needs of its owners. Cost cannot simply be thought of as material and installation cost – builders and homeowners must also consider the long-term costs, such as maintenance and possible replacement costs down the line.

In addition to monetary costs and longevity, builders and homeowners must factor in hazard prevention – such as slip resistance and fireproofing – durability and ability to withstand exposure to the elements over time, and, of course, the deck's aesthetic appeal.

To help determine which decking material will fulfil homeowner need of a safe, durable but also attractive deck, this whitepaper explores in-depth each of the above considerations, and analyses how different decking materials stand up to consumer and builder expectations.



Cover image: DecoDeck Casuarina, Dural, courtesy of Aussie Outdoor Living  
Above image: DecoDeck poolside in Victoria

## COMMON DECKING MATERIALS

Although many people traditionally think of timber when it comes to decking materials, there is a wide range of decking materials available. Attractiveness, longevity and cost-effectiveness all play a role in choosing a decking material, and different decking materials boast different features and benefits, ranging from low cost to long-term durability.

### Timber

Timber is the most obvious and popular choice for decking, due to its classically attractive, warm appearance and its natural feel.<sup>1</sup> The three main timber types used in Australia are Pine, rainforest Merbau or Kwila, and hardwoods, such as Blackbutt, Brushbox and Jarrah.<sup>2</sup>

Whilst timber is attractive, and some species relatively inexpensive, it is also very high maintenance.<sup>3</sup> As an organic material, it is susceptible to the elements and will deteriorate rapidly over time. If not correctly maintained, there is also a high chance it will rot, warp, shrink and twist. Timber must be painted or oiled every six months and stripped and then resealed every four years, resulting in high maintenance and replacement costs.<sup>4</sup>

### Composite

Decks constructed from a composite of plastic and wood fibre are more weather resistant, more lightweight and less likely to rot or splinter than pure timber.<sup>5</sup> However, buyers must either choose between greater plastic content in their decking, or a rapid-fading product with poor dimensional stability and durability.<sup>6</sup>

Composite decking has the added disadvantage of looking more obviously 'fake', and is not resistant to mould and mildew, meaning it will visibly decay over time.<sup>7</sup>



Above image: a timber deck in a beachfront area

Below image: a powder coated aluminium deck by a pool in St Ives

### Fibre cement or tiles

For a more durable decking option, many builders and homeowners choose fibre cement decking or tiles. These options are fire, weather and water resistant and relatively low-maintenance,<sup>8</sup> but lack the traditional appearance of a timber deck. These options can also be difficult to drain water from.<sup>9</sup>

### Powder coated aluminium

As a solid metal product, aluminium decking has better dimensional stability than its alternatives.<sup>10</sup> It will not splinter, rot or warp.<sup>11</sup> It is impervious to fire, water and termites, and is lightweight, making it easy to install.<sup>12</sup>

As it is an excellent conductor of heat, aluminium decking stays at ambient temperature, and it is easily recyclable, making it environmentally friendly.<sup>13</sup>

When aluminium decking is finished in a high-quality, anti-slip Super Durable™ powder coating, it has significant durability, will not fade and requires no repainting, staining or long-term maintenance other than basic cleaning.<sup>14</sup>

It also has the benefits of being available in a wide range of colours, including timber-look alternatives, such as DecoWood.

## COST CONSIDERATIONS WHEN CHOOSING A DECKING MATERIAL

The average cost of building a deck in Australia ranges from \$3,400 to \$6,500, depending on its size.<sup>15</sup> When building a deck, there are four cost components that must be taken into account: material cost, installation cost, maintenance cost and durability (or the frequency of replacement).

Choosing one option because of lower material or installation costs may cost homeowners more in the long run, as cheaper products often require more frequent maintenance or replacement.

Composite decking costs around \$180 per square metre to install, while timber and fibre cement/tile decking can exceed \$250 per square metre, sometimes reaching as much as \$350 due to the labour-intensive nature of installing these products.<sup>16</sup> Aluminium, however, costs around \$80 per square metre to install.<sup>17</sup>

The material costs of aluminium exceed those of timber and composites – aluminium decking costs around \$180 – \$200 per square metre, while timber and composite materials sit around the \$80 – \$180 range. However, these costs do not account for ongoing maintenance-related costs.

Timber decking cost approximately \$10 per square metre to maintain each year, and must be replaced every 5 – 10 years, and composites can need replacing as often as every three years.

On the other hand, aluminium and fibre cement/tile decks will not need replacing for approximately 20 years and require no maintenance other than cleaning.

When all costs over a 20-year period are considered, choosing a product with greater durability and lower maintenance pays off in the longer-term. Although initial costs may be lower for less durable products, the cost of replacement and maintenance outweighs cheaper material costs.

Aluminium is the most cost-effective decking material in the long-term, costing around \$260 – \$300 per square metre over 20 years – less than a third of the cost of timber and half the cost of fibre cement or composites.



Above image: Bayview Marina

### Cost Analysis Broken Down

	TIMBER	COMPOSITE	FIBRE CEMENT/ TILES	ALUMINIUM
<b>MATERIAL COST (per m<sup>2</sup>)</b>	\$80 – \$140	\$80 – \$180	\$140 – \$250+	\$180 – \$220
<b>INSTALLATION COST (per m<sup>2</sup>)</b>	\$275	\$180	\$250+	DECO \$80
<b>MAINTENANCE COST (per m<sup>2</sup>)</b>	\$10 every year	Possible painting	None	None
<b>REPLACEMENT</b>	Every 5 – 10 years	3 – 15 years	20 years +	20 years +
<b>TOTAL 20-YEAR COST (per m<sup>2</sup>)</b>	\$710 – \$830 (plus maintenance)	\$520 – \$720	\$390 – \$500+	\$260 – \$300

## OTHER FACTORS TO CONSIDER

When building a deck, it is important not to consider cost alone, but rather to consider cost and value in conjunction with one another. While other features of a particular decking type may not affect the amount of money paid towards the deck, they add value to the product as a viable, durable and appealing option.

### Appearance

People are attracted to timber's naturally stylish, warm appearance. Many alternatives attempt to replicate the appearance of timber, to varying degrees of success. Wood-polymer composites can look obviously fake and plastic,<sup>18</sup> and can fade rapidly, while fibre cement and tile decking looks drastically unlike any timber product, and therefore cannot pass, aesthetically, as a timber alternative.

Timber-look aluminium finishes such as DecoWood offer a natural looking timber appearance for aluminium decking. Utilising sublimation technology, a woodgrain pattern can be applied to the powder coated aluminium, offering realistic timber finish that will last for decades with minimal fading. This means it will remain attractive for significantly longer than real timber.

### Fire Safety

Ensuring your property is fire safe can prevent further, harsher costs down the line, such as those associated with bushfire destruction.

While timber is attractive, it burns easily, and therefore presents a significant fire hazard for houses in bushfire-prone areas. Bushfire-resisting types of timber such as Blackbutt are only compliant with AS 3959 up to BAL 29.<sup>19</sup> Composite panels similarly are fire resistant up to BAL 29 – a BAL 40 option exists but is unreliable as composite decking will burn like timber.<sup>20</sup>

Both fibre-cement/tile decking and aluminium decking are completely flame-resistant, meaning they will not ignite when under ember attack or worse, a full-blown

fire. These materials are compliant with AS 3959 right up to BAL 40 or BAL FZ (depending on the application and installation).

### Resistance to extreme elements

Exposure to extreme heat, cold or moisture not only affects the appearance of decking materials, but their integrity. Exposing timber to the sun's UV rays for long periods of time will weather and crack it, while water will soften it, affecting its strength.<sup>21</sup> Organic material such as timber shrinks, twists and warps with exposure to the elements, further impacting the dimensional stability of the deck.<sup>22</sup>

While composite decking is more weather-resistant than timber, exposure to sunlight will still fade it, and debris such as leaves can cause staining.<sup>23</sup> Fibre cement and tile decks will withstand both heat and moisture, but after heavy rains water can accumulate. This means decks must be built with a slight fall or slope to allow this water to drain away.<sup>24</sup>

Powder coated aluminium decking is waterproof, and impervious to mould and termites. With a good powder coated finish, aluminium decking can withstand seasalt spray, extreme sun exposure and heavy rains, with minimal changes to the timber grain finish.

### Slip Resistance

An important factor to consider with any deck is whether it is safe to walk on. When it rains, fungus forms on the water-soaked surface of timber decking, making it slippery and potentially hazardous to walk on.<sup>25</sup>

Composite decking performs poorly in AS 4586 slip resistance tests, especially when wet, while fibre cement and tile decks completely fail to comply with this standard.<sup>26</sup> Aluminium decks with a textured polyurethane powder coating such as DecoDeck are far more slip resistant and comply fully with AS 4586 and have a P4 slip rating, making them a safer decking option when it comes to safety and mobility, and a good choice for a pool deck.

## MYTH BUSTERS: OVERCOMING COMMON CONCERNS ABOUT ALUMINIUM DECKING

While aluminium is a durable, attractive and cost-effective decking solution, there are a few myths which need to be dispelled to ensure more builders and homeowners feel comfortable reaping the benefits of an aluminium deck.

### Will an aluminium deck get hot?

Although aluminium is metal, it is a good conductor of heat, and therefore safe and comfortable to walk on even with bare feet in hot weather. Aluminium is an excellent conductor of heat, allowing it to pass evenly through the material, and does not retain heat, unlike other deck materials such as plastic.<sup>27</sup> DecoDeck is also hollow, meaning airflow through the boards helps to regulate the temperature of the deck – unlike solid hardwood timbers.

### Will a powder coated aluminium deck scratch easily?

While timber is soft and scratches easily, powder coated aluminium is scratch and scuff resistant, and able to withstand shoe scuffs or pet claws.

### Will the timber-look finish peel off my powder coated aluminium deck?

As a sublimated powder coated finish, the DecoWood® woodgrain finish is not 'stuck on' or printed to the aluminium, and will not peel or rub off. When sublimated, the ink of the woodgrain finish penetrates the full layer of the powder coating, not just the surface. This means minor scuffs will not affect the visual appeal of the deck.



Pet-proof DecoDeck in St Ives

## DECODECK



DECO are the Australian leaders in sublimated, powder-coated aluminium products with an authentic timber-look finish. DecoDeck is a superior timber-look aluminium decking designed to withstand harsh Australian conditions. It is designed as a strong box section extrusion to allow for extra dimensional stability, and coated with a Super Durable™ polyurethane powder which protects against corrosion, scratching and staining.

All DECO powder-coated aluminium products are subjected to extreme exposure testing in Miami, Florida and Venice, Italy. DecoDeck is therefore proven to be resistant long-term to extreme sunlight, rain and acidic salt spray conditions, retaining its beautiful timber aesthetic, and requiring no maintenance other than cleaning. DecoDeck's polyurethane powder coating is combined with a unique rubber formulation to make it anti-slip, compliant with AS 4586 and a perfect solution for a pool or spa deck.

DecoDeck, being both metal and non-combustible, is fireproof, and with specially-designed strips to insert between the boards, is compliant with AS 3959 in both BAL 40 and BAL FZ. This makes it a great option for homes in bushfire prone areas.

DecoDeck comes in a wide range of natural woodgrain colours, is lightweight and easy to install by professional or DIY builders.

To find out more about DecoDeck, our sublimated, powder coated aluminium decking, visit [deco.net.au](http://deco.net.au)  
Or email us at [info@deco.net.au](mailto:info@deco.net.au) for samples and quotes

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