

# Cladding costs over a lifetime

Designers and builders enjoy a broad and ever-increasing range of cladding options for walls and roofs. While appearance is a prime consideration, it is useful to consider the upfront and lifetime costs.

**THE LIFETIME COST** of a cladding considers how long it is likely to last, how much it will cost to maintain and how often it needs to be maintained. The following may help to narrow the options for a particular job.

## **What is most popular?**

BRANZ surveys builders or designers of new dwellings to understand their choice of materials. From this, the market share of the various roof and wall cladding options can be assessed.

Sheet metal remains the most popular roof cladding for new builds, with 55% market share in 2015, followed by metal and concrete tiles with 39%. For wall claddings, weatherboard profiles have been growing in popularity, used in 37% of new houses. Clay and concrete bricks, historically the most popular, have declined from 50% in 2005 to 38% in 2015, and weatherboards are poised to overtake them.

## **Lifetime costs**

Maintenance for each of these claddings is based on maintaining a good appearance and weathertightness. This assumes a moderate environment - claddings in coastal, geothermal or industrial environments will require a different assessment.

Only direct costs have been included, as indirect costs will vary from site to site. Indirect costs such as scaffolding or edge protection, enhanced foundation or structural requirements, disruption from maintenance or replacement, and disposal costs at end of life may tip the balance in favour of more durable and lightweight claddings. All claddings require regular cleaning, and the cost is not in the lifetime cost.

Ease of maintenance should be considered when selecting a cladding, as surfaces that are difficult to access may be better suited to long-life, low-maintenance materials.

## **Sheet metal cheapest for roofs**

The range of roof claddings assessed all offer a similar lifetime cost (see Table 1 and Figure 1). It is dominated by sheet metal options, led by textured metal tiles, which provide both a low initial cost and a long, low-maintenance service life.

Concrete tiles offer a similarly low upfront cost and long service life. Unpainted sheet metal has the lowest initial cost and offers a low lifetime cost with an expected 25-year maintenance-free service life. Precoated steel roofing offers a moderate service life, initial cost and lifetime cost.

## **For walls, wide range in cost and material**

The cost and choices of wall claddings vary considerably more than roof claddings, perhaps reflecting their higher visibility (see Table 1 and Figure 2).

Corrugated sheet metal offers the lowest lifetime cost by a considerable margin but is less common on residential walls.

Weatherboard profiles offer a moderate lifetime cost across a range of materials - radiata pine, uncoated cedar, fibre-cement, prefinished aluminium and uPVC. For materials that require painting, the labour-intensive nature of painting weighs heavily on the initial and lifetime cost. Maintaining the appearance of stained timber requires frequent recoating, which also leads to a high lifetime cost.

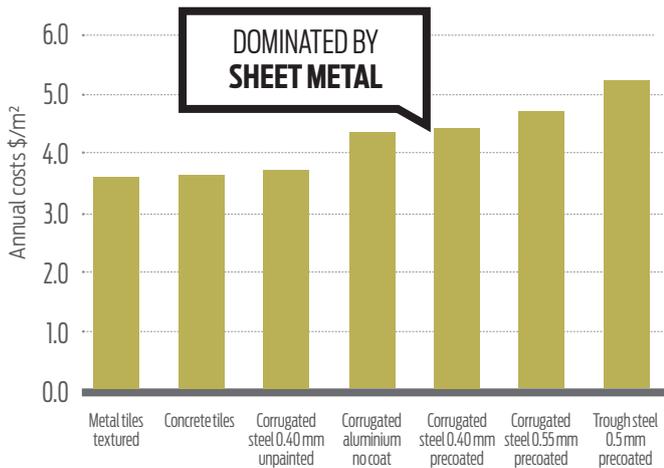


Figure 1: Residential roof claddings.

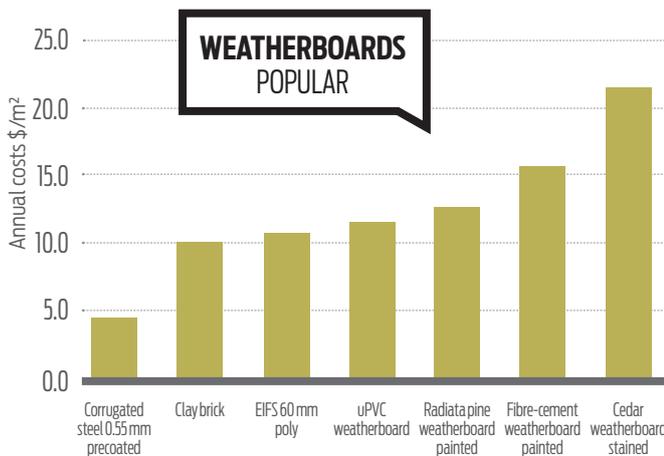


Figure 2: Residential wall claddings.

Clay and concrete bricks offer the longest serviceable lifespan and, due to their low maintenance requirements, offer a lower lifetime cost than weatherboards.

### Cheapest not always most popular

Market share information shows that the cheapest claddings are not necessarily the most popular. Weatherboard profiles are not the cheapest wall claddings for initial or lifetime cost, yet they are the most commonly used.

Appearance and weathertightness is clearly very important, hence the preference for bevel-back weatherboards over rusticated. More expensive cladding options are likely to maintain their appearance for longer, and this may support resale value down the track. Real estate advertisements often highlight low-maintenance and long-lifetime claddings such as concrete tile roof and clay brick wall claddings. Lifetime costs may not always sway a decision but support well-informed decision making when choosing cladding. ◀

**Note** Thanks to the New Zealand Metal Roofing Manufacturers Association for providing data.

**Table 1**

## Initial and lifetime costs for claddings

CLADDING TYPE	Average life (yrs)	Initial cost (\$/m²)	Lifetime cost (\$/m²)
<b>Roof claddings</b>			
Metal tiles textured, recoat @ 40 and 60 years	60–80	50–60	3.5–4.4
Corrugated steel 0.40 mm zincalum, unpainted	30–40	40–50	3.5–4.4
Concrete tiles, repaint and repoint @ 35, 60 and 80 years	60–80	50–60	3.5–4.4
Corrugated steel 0.40 mm, pre-painted, repaint @ 25 and 35 years	40–60	50–60	3.5–4.4
Corrugated aluminium 0.70 mm, no coat	40–60	60–70	3.5–4.4
Corrugated steel 0.55 mm, pre-painted, repaint @ 25 and 35 years	40–60	60–70	4.5–6.0
Trough steel 0.55 mm, pre-painted, repaint @ 25 and 35 years	40–60	70–80	4.5–6.0
<b>Wall claddings</b>			
Corrugated steel 0.40 mm zincalum, unpainted, no maintenance	20–30	40–50	3.5–4.4
Corrugated steel 0.55 mm, pre-painted, repaint @ 25 and 35 years	40–60	60–70	4.5–6.0
Sheet plywood and batten, painted, repaint every 8 years	40–60	90–100	6.1–9.0
Fibre-cement sheet 7.5 mm + PVC jointing, painted, repaint every 8 years	30–40	90–100	6.1–9.0
Clay or concrete bricks, repoint @ 35 years	60–80	160–170	9.1–12.0
EIFS 60 mm polystyrene, repaint every 10 years	30–40	130–140	9.1–12.0
uPVC weatherboard, no painting	30–40	160–170	9.1–12.0
Fibre-cement planks 180 mm, painted, repaint every 8 years	30–40	150–160	12.1–15.0
Timber weatherboard, radiata, H3 150 mm, painted, repaint every 8 years	40–60	160–170	12.1–15.0
Aluminium weatherboard, powder coated, repaint @ 25 and 35 years	40–60	180–190	12.1–15.0
Timber weatherboard, cedar, 150 mm, no coat	30–40	180–190	12.1–15.0
Fibre-cement weatherboard 180 mm, painted, repaint every 8 years	30–40	200–210	15.1–18.0
Timber weatherboard, cedar, 150 mm, stained, recoat every 4 years	40–60	210–220	18.1–22.0