

BORAL ROOF TILES
Build something great™



NOVEMBER 2014

A GUIDE TO ROOF RE-TILING & EXTENSIONS



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INTRODUCTION

If you're extending or renovating your home, especially if your home is getting on in years, then this guide is for you.

As one of your home's largest surface areas, the roof not only sets the visual tone but plays the leading role in protection from the elements. A great roof can make your house stand out. By contrast, a drab old roof can bring the look of the whole house down.

The roof is your home's first line of defence against Australia's harsh environment and it cops a beating, so you need to know your roof is made of strong, durable materials that can go the distance. Adding a new roof is also a big opportunity to include energy-saving measures while improving your home's appearance.

ROOF TILES BY BORAL ARE:

- Available in affordable concrete or premium terracotta in a variety of colours and tones.
- Long-lasting with a 50-year performance guarantee for terracotta tiles and 20 years for concrete tiles.
- Low maintenance.
- Salt-safe and frost-resistant.
- Fire resistant.
- Effective for sound insulation.

For more information about Boral roof tiles pick up "Your Guide to Roof Tiles"





Consider the benefits of a roof replacement
as a one-off long-term solution.

WHEN DOES IT MAKE SENSE TO RE-TILE?

- You have faded, mossy old tiles.
- Rainwater is leaking into the roof space.
- Gutters and downpipes aren't working the way they should.
- You have an older home that requires a high level of general maintenance.
- You are planning to extend the house or renovate.

ADVANTAGES OF A NEW ROOF: WHEN PREVENTION IS BETTER THAN CURE

- Instantly update the look of your home and enhance your streetscape.
- Fix any cracks or leaks and prevent them from recurring.
- Forget the hassle of trying to match old tiles.
- Install underlay protection called sarking if your roof doesn't already have it.
- Incorporate better insulation and ventilation measures to improve indoor comfort.



THE SEVEN STEP ROOF CHECK

A home renovation or extension is a good time to take a closer look at your existing roof. It's often easier than you think to completely update the look of your home while at the same time improving the comfort of your family. But before you can decide whether to replace tiles, re-spray or re-roof, a thorough roof assessment is required.

Boral always recommends that you use a qualified roofing tradesperson to undertake a roof assessment.



STEPS

- 1 CHECK ROOF FOR ANY CRACKED TILES, TILE DISPLACEMENT OR DEBRIS BUILD-UP
- 2 CHECK OLD CEMENT MORTAR BEDDING
- 3 CHECK FLASHINGS, GUTTERS AND DOWNPIPES
- 4 CHECK WHETHER SARKING IS INSTALLED AS A BARRIER AGAINST DUST, STORMS AND BUSHFIRES
- 5 CHECK FOR SUFFICIENT VENTILATION TO REMOVE HOT OR DAMP AIR
- 6 CHECK FOR THE NEED TO RE-INSULATE THE CEILING WITH BULK INSULATION
- 7 ASSESS THE NEED TO REPLACE INDIVIDUAL TILES, RE-SPRAY OR RE-ROOF AND SARK



Concrete: Lined Charcoal Grey

DEMYSTIFYING ROOF RE-SPRAYS

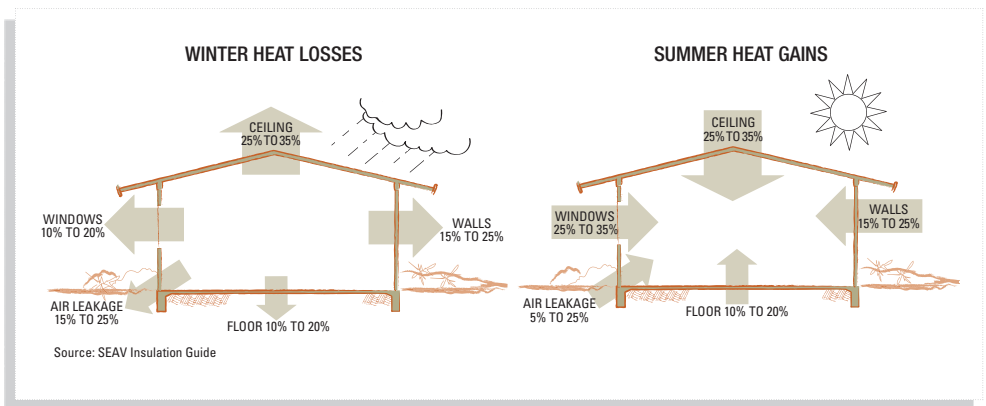
Many companies offer roof re-coating or re-spraying as an option to rejuvenate concrete tiles. This is because, over time, the sheen coat on concrete tiles will fade, unlike terracotta which is kiln-fired and retains the colour.

The important point to remember is that roof re-sprays are for aesthetics only. A regular coating over your concrete tiles does not fix cracks or leaks and will not enhance the performance of your roof.

HOW TO IMPROVE THE EFFECTIVENESS OF YOUR ROOF

On average across Australia, 40 per cent of the energy we use at home is for heating and cooling (not including heating hot water)! So re-roofing is a golden opportunity to improve the effectiveness of your roof's current contribution to thermal efficiency.

Ceilings and roof spaces account for 25-35% of winter heat loss and summer heat gain so must be well insulated?



There are two major considerations to ensure you get the most out of your roof: insulation and ventilation.

ONE: INSULATION

The roof and ceiling work together using two types of insulation to stop the transfer of different types of heat: radiant heat from the sun through the tiles; and convection heat through the ceiling.

The number one defence against radiant heat is a non-flammable thin membrane called sarking, also known as reflective insulation or reflective foil laminate (RFL).

Bulk insulation or ceiling batts combat the effects of convection heating from the roof space. Remember, while ceiling insulation is easy to retro-fit if the roof space is accessible, sarking can only be installed during construction or re-tiling.

TWO: VENTILATION

Whirly-birds work to reduce both heat and moisture in the roof space, which is equally important all year-round. Installing whirlly-birds on opposite sides of the roof space allows for cross-ventilation, which facilitates greater air movement, making it more beneficial than a single-sided whirlly-bird.

Insulation and ventilation: It's as easy as A-B-C.

- A. sarking under tiles to reflect radiant heat and provide a water and dust-proof barrier
- B. bulk insulation between ceiling joists to block heat gain and loss
- C. whirlly-birds to ventilate and inhibit condensation.



Sarking matters

Boral always recommends sarking. Sarking provides protection against the wet, the heat and the dust but can only be installed during house construction or re-roof.

It is mandatory under Australian Standards¹ if:

- your home is located in an area with a wind classification greater than N3;
- your home is located in a bushfire prone area
- the roof pitch is less than or equal to 18 degrees
- rafter lengths are greater than 6000mm

Certain roof tile profiles also require sarking. View the Boral Roof Tile range brochure in your state to find out which ones they are.

1. AS2050 Installation of roof tiles and AS3959 Construction of buildings in bushfire prone areas

CHOOSING A BORAL ROOF TILE

Now that you're ready to make a selection, it's reassuring to know that Boral roof tiles are manufactured in Australia for Australian conditions and have a long lifespan. We have an extensive range of colours and profiles that match older tiles for extensions. Alternatively, if you have decided to re-tile the whole roof, follow these five steps.

STEP 1: MATERIAL

TERRACOTTA

Meaning 'baked earth' in Italian, terracotta, as the name suggests, is a natural clay product that has been used throughout the ages for protection against the elements. Boral terracotta tiles are manufactured using select clays that are kiln-fired to temperatures of 1100°C, resulting in a strong-yet-lightweight roofing material of exceptional quality.

The outstanding colour performance is achieved through the firing process known as vitrification. Clay and glaze materials fired at high temperatures melt and fuse together resulting in a finished tile resistant to harsh UV exposure.

CONCRETE

Modern concrete tiles are made from sand and cement with a pigmented colour coat. This can replicate the appearance of a broad array of distinctive tile designs, while remaining relatively cost-effective.

Boral concrete tiles are manufactured using an extrusion process resulting in the utmost strength and density. Following moulding and colouring we apply a sealant finish that protects against efflorescence, a salty white deposit that can form on masonry and concrete products.

Terracotta and concrete tiles differ in size, shape and colour so what you choose may come down to personal preference.



STEP 2: TILE PROFILE

The profile of each tile's shape at its cross-section works together with colour to provide a roof's distinctive character.





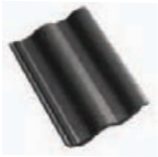
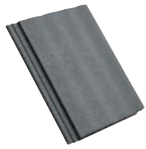
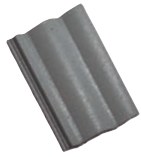
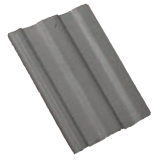
TERRACOTTA TILES

FLAT ROOF TILES	Shingle	
		Available in all states.
SHAPED ROOF TILES	French	
		Available in all states.
	Swiss	
		Available in all states.



Concrete: Contour Gunmetal

CONCRETE TILES

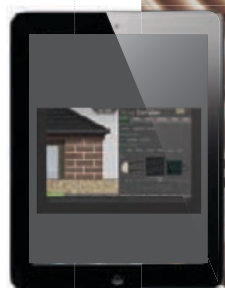
FLAT ROOF TILES	Linea		Striata		Uno		Vogue	
		Available in NSW, VIC & SA.		Available in VIC & SA.		Available in VIC.		Available in NSW.
SHAPED ROOF TILES	Capri		Contour		Macquarie		Slimline	
		Available in SA.		Available in NSW & VIC.		Available in NSW & VIC.		Available in NSW & VIC.

CHOOSING A BORAL ROOF TILE

STEP 3: COLOUR & FINISH

Boral offers a palette of warm, cool and neutral tones in both terracotta and concrete ranges. Mix and match your roof tile with fascia, gutter and brick colours at www.boralsampler.com.au

Not only is there a vast array of colours on offer, there are also a few options to enhance the final finish of each tile. Our terracotta range features four finishes from matt through to glazed. For concrete tiles, choose from the vibrancy of our 'Colour-On' application or the longevity of 'Colour-Through'.



STEP 4: ACCESSORIES

Boral's accessories can make all the difference to the final outcome of your roof, including its performance and appearance. They include sarking for sub-tile protection and a terracotta ridging product called Accent Ridging, for the ultimate sleek finish.

Depending on the style of your house and design of your roof, Boral offers other ways to finish off ridges and apexes as well as some more traditional crests and finials.

STEP 5: INSTALLATION

To be sure your roof is installed to the correct specifications, Boral works with a network of professional installers. So for any roof alterations, additions or re-roofs to an existing home, please call Boral on 1300 134 002 and we will do our best to recommend an installer near you.





Getting a great roof depends on more than just high-quality roof tiles.

FREQUENTLY ASKED QUESTIONS

Can I choose Boral tiles even if my old tiles are another brand?

Yes you can, as your roof tiler should be able to work around different tile widths. If you are looking at re-tiling the whole roof, assess the condition of the existing timber battens, which support the tiles, as well as the sarking underlay that lies beneath. If either needs to be replaced or you don't have sarking, a re-roof is the recommended option. For extensions where you don't want to re-tile the whole roof, Boral tiles in the closest match can be installed on the new roof plane.

What if I have an old metal roof and would like to change to tile?

It all depends on the load capabilities of the existing roof frame, as tiles are heavier than metal sheeting. If you have a trussed roof frame, which comprises triangular units that are self-supporting to a pre-calculated load, an engineer's report will determine whether your roof can support tiles. Conventional roof frames (also called stick-built roof frames) are constructed on-site during the house framing phase of construction. They are more flexible, as they can shift the weight of the roof system to load-bearing walls. Tiled roofs require a load capacity of 60kg per square metre.

How can I make my roof as energy efficient as possible?

A major source of a home's heat gain or loss is through the roof, which in turn places a huge load on energy requirements for cooling and heating. The density of roof tiles combined with the use of effective insulation, ventilation and solar passive design principles creates a more effective barrier against the climate.





What is the sheen on new concrete tiles?

A tinted acrylic sealer is applied to concrete tiles for protection against efflorescence, which appears in the early stages as a whitish discolouration caused by mineral salts migrating to the surface. This has no impact on performance and weathers away over time, as does the sealer, which is designed to last only these initial years. Unlike terracotta tiles, concrete tiles are not glazed, so as with other building materials subject to UV radiation, they will lose some colour over time.

Does Boral recommend spraying roofs with colour?

Depending on the material and method used it is acceptable to re-spray concrete roof tiles to enhance the colour. However, it must be understood that this will not enhance performance and if the roof is old, you could be much better off re-tiling. Never re-spray terracotta tiles, as the colour coat applied will peel away from the glazed surface over time.

I live in a high wind area; are tiles suitable?

Strong winds can cause extensive damage to Australian roofs each year. Most people don't realise that the added weight of tiles actually helps to counteract uplifting wind forces during storms. Another consideration is the relative ease with which individual concrete or terracotta tiles can be refixed or replaced after a severe storm, compared to large metal sheets. Boral recommends sarking as an added protection barrier.

Do concrete tiles absorb moisture?

A common fallacy is that roof tiles are impacted by water absorption during severe downpours. However all Boral roof tiles comply with strict Australian Standards, which specify a maximum absorption of 10 per cent of their own weight.

What else do I need to know about roof maintenance?

It really does pay to regularly check gutters to clean out debris that can cause blockages and pooling on roofs. Blockages provide fuel for bushfires while pooled water can encourage mosquitoes to breed. Consider installing a mesh gutter guard to keep your gutters leaf-free, particularly if you harvest rainwater from the roof.

For more information about Boral roof tile products and installers in your area: call us on **1300 134 002**; visit our website at **www.boral.com.au/reroofing**; or drop into a Boral display at the following locations:



New South Wales

Albion Park Rail - 49 Durgadin Drive, Albion Park Rail, 2527

Albury - Corner Ebdon & Townsend Street, Albury, 2640

Badgerys Creek - 235 Martin Road, Badgerys Creek, 2170

Emu Plains - MacKellar Street, Emu Plains, 2750

Wyee - 288 Tooheys Road, Bushells Ridge, 2259

Victoria

Caroline Springs - 1037 Western Highway, Caroline Springs, 3023

Geelong West - 38 Pakington Street, Geelong West, 3218

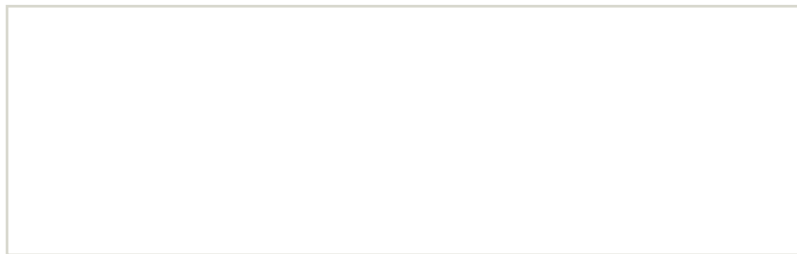
Scoresby - 191 George Street, Wantirna South, 3152

Springvale - 66-78 Tootal Road, Dingley Village, 3172

Thomastown - 2 Trawalla Avenue, Thomastown, 3074

South Australia

Pooraka - 1161 Main North Road, Pooraka, 5095



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