

Building Products & Bush Fire Attack levels (BAL)



Renovating or building a new home in a bush fire prone area can be a nightmare when choosing building materials and products. Not only should the roofing, windows, doors, guttering and cladding meet your families requirements, but they must also comply with construction requirements for bush fire prone areas.

To ensure you choose building products that will comply with Bush Fire Attack levels (BAL) it's important to understand what Bush Fire Attack levels mean.

Bushfire Attack Levels (BAL) are given to properties that are:

located in bush fire risk areas, the higher the number, the higher the bush fire risk (example **BAL - 40** means you're in a really high risk area and **BAL - 12.5** means you're at the lower end of bush fire risk). **BAL - FZ** however means that you are in total **Flame Zone** and are at extreme bush fire risk. The number behind the BAL acronym relates to the heat flux in kW/m².

Outlined below are the 5 main Bushfire Attack Levels (BAL) - you will need to assess which one applies to your property.

1. **BAL - 12.5** - lowest level of bush fire attack.
2. **BAL - 19** - possible requirements - use of fire retardant timbers.
3. **BAL - 29** - possible requirements - gutter guards, use fire retardant timber timbers.
4. **BAL - 40** - possible requirements - gutter guards, stainless steel or bronze insect screens, no exposed timber, use fibre cement sheeting, brick & concrete cladding, brick cladding, metal framed toughened glass windows and doors only.



5. **BAL - FZ** - possible requirements - gutter guards, stainless steel insect screens, no exposed timber, , brick & concrete cladding, metal framed toughened glass windows and doors only, 10,000 litre fire dedicated water tank, radiant heat barriers (example fire shutters), sprinkler systems, fire hydrants, special barrier housing for gas cylinders and fire door compliant entry and garage doors.

So how do you know what BAL your site is?

1. Assess your risk

To assess your sites BAL you need to confirm the following:

1. Distance from your site to the fire hazard.
2. Type of fire hazard (grassland or forest for example).
3. Slope type and gradient from the fire hazard.
4. Your sites **Fire Danger Index** (FDI)

To find the answers to the above you will need to read over the latest release of the [RFS Guidelines for Single Dwelling Development](#). You could also speak with an industry professional like a builder, building designer or an architect, they should know the latest requirements for building in bush fire prone areas.

TIPS:

- If the outside of your dwelling footprint is located at least 100 metres from a fire hazard you can use any building materials you like, but it is highly recommended that window screens and gutter guards be installed to reduced possible ember attack.
- Construction materials alone will not provide sufficient protection from fires, you must create and ample buffer zone and a safe exit from your property.
- If you cannot find wall cladding or windows and doors to comply with your sites **Bushfire Attack Level** (BAL) you can increase your buffer zone to reduce your BAL.
- All materials on your building need to comply with the highest BAL calculated on all elevations of your home. It use to be that if your building had a higher BAL on one side of your home than another you could use materials to comply with different BAL's. Previously this saved on window and door costs for example.

2. Confirm that your products comply with your site BAL

All building materials will have a product specification document that should state what BAL level the products are able to withstand. Unfortunately there are many wonderful products on the market that cannot be given specific BAL compliance levels as they are considered composite products. Currently CSIRO's methodology for testing building products does not allow for composite products to be tested, only products that are of one material can be tested. So products like bitumen roof shingles (which are composed of a few different products) cannot be tested, but single component materials like Colorbond sheeting or terracotta tiles can. As a result resellers of new and innovative products are finding it difficult to gain market traction in the bush fire prone market and consumers are limited to a small selection of products.

Please note: This article is a quick summation of the RFS's guide below and was updated on the 08/11/13. Your property should be assessed further using the latest [RFS Guidelines for Single Dwelling Development Application](#) before any decision are made about purchasing products or developing your property