

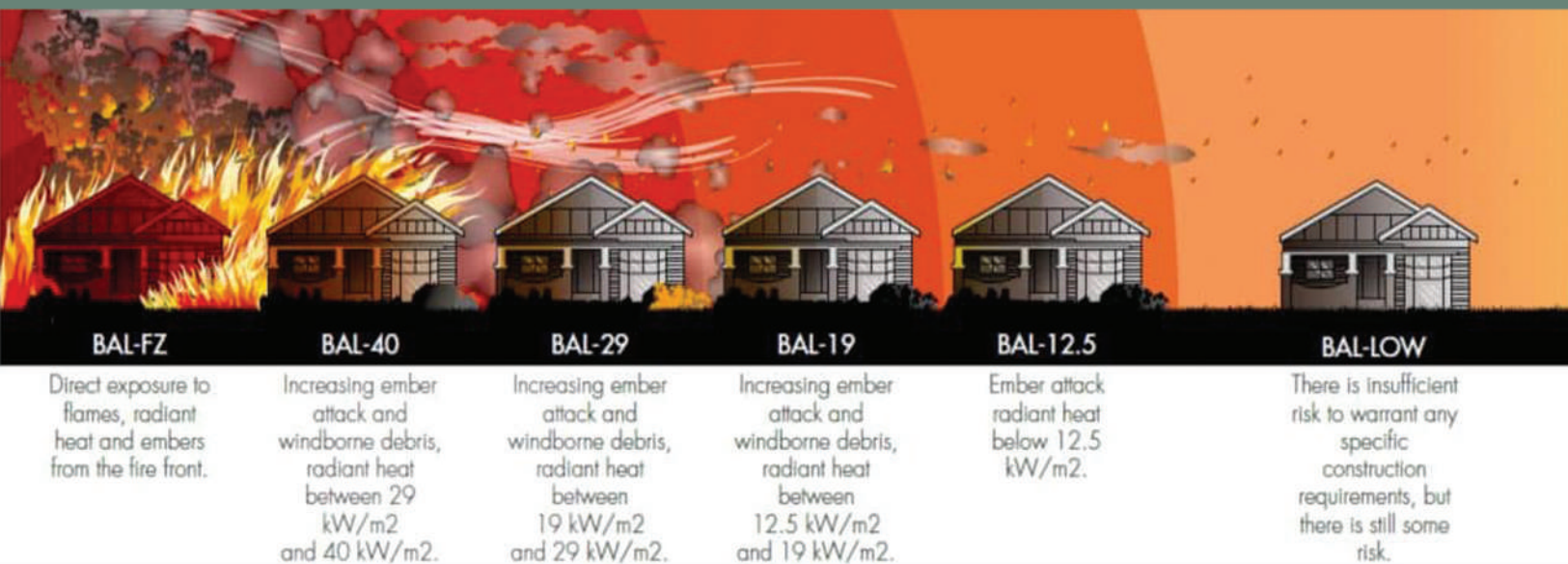
FIRE PROPERTIES

Bushfire Attack Level (BAL)

A Bushfire Attack Level (BAL) is a means of measuring the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact.

A BAL is the basis for establishing the requirements for construction (under the Australian Standard AS 3959-2009 Construction of Buildings in Bushfire Prone Areas), to improve protection of building elements from bushfire attack.

If your property does fall into a bushfire prone area, a minimum construction standard applies to all new buildings built on that land, which will require construction to a minimum Bushfire Attack Level (BAL) of 12.5. However you still may need to build to a higher BAL rating depending on certain attributes of your property.



Common Australian Species and their BAL ratings

Blackbutt **BAL 29** - Silvertop Ash **BAL 29** - Yellow stringy Bark **BAL 19** - Red Ironbark **BAL 29**
Southern Mahogany **BAL 19** - Spotted Gum **BAL 29** - River Redgum **BAL 29** - Cypress **BAL 19**

See species data sheet for specific fire properties.

Using Solid Timber Cladding on a BAL 40/FZ property

Solid timber cladding can be considered for decorative use on a Bal 40 or Bal FZ structure provided certain fire requirements are met on the inner substrate.

A Bushfire Attack Level (BAL) is a means of measuring the severity of a building's potential exposure to ember attack, radiant heat and direct flame contact. However, if timber cladding is fixed over a layer of 16mm moisture-resistant fire grade plasterboard, special choices of timber can be used to obtain Bushfire Attack Level right up to BAL-FZ by following the standards for building systems and materials.

The technical expression of a Fire Resistance Level (FRL) is: Structural adequacy / integrity / insulation. This means that if a building element were exposed to a standard fire test, it can resist the passage of flame and hot gases measured in minutes as per requirements of the relevant standard.

- Structural adequacy is defined as the measure of a tested assembly, stability and to be load bearing.
- Integrity is the measure to restrict the passage of flame and hot gases.
- Insulation is a measure of the temperature rise on the non-exposed, or non-fireside, of a fire resistant separating barrier.



Bonalbo Police Station- Modscape

Can I use Timber Cladding on my project?

The National Construction Code, Volume Two – Building Code of Australia 2019 (NCC), provides the technical design and construction requirements relevant to domestic houses.

It sets the minimum required level of safety, health, amenity, accessibility and sustainability performance for these buildings.

Timber cladding can be used on detached houses, terrace houses, row houses, villa units and small boarding houses, guest houses, hostels and the like in accordance with the requirements of the NCC.

The fire safety provisions of the NCC require that houses are protected from the spread of fire from near-by buildings either on the same allotment (e.g. dual occupancies) as well as adjacent allotments (e.g. neighbours); and that house occupants are provided with an automatic warning in the event of a fire (i.e. smoke detectors).

There are no fire requirements for houses if external walls are 900mm or more away from an allotment boundary (e.g. as occurs with the installation of a 900mm side of house pathway); or 1800mm or more from another building on the same allotment (e.g. as typically occurs with dual occupancy developments). If, however, an external wall is required to be within 900mm of an allotment boundary or another building on the same allotment, a 60-minute fire-rated external wall (i.e. FRL 60/60/60 from the outside only) is required as well as protecting any openings that may occur in the fire-rated wall (e.g. minimum 35mm thick self-closing solid core timber door) – refer NCC Clause 3.7.2.4 for specific details.

There are fire-rated external timber clad wall systems that can be used to comply with the NCC provisions, and careful consideration needs to be given to the detailing of fire-rated walls (particularly at eaves level and roof junctions) and the ability to access, maintain and replace timber cladding as required. Further guidance and detailing can be obtained from fire-protective grade lining manufacturers or the WoodSolutions Technical Design Guide #01 Timber-framed Construction for Townhouse Buildings Class 1a.

For more detailed information please check with your local authorities and also read Building with Timber in Bushfire prone areas technical manual on the wood solutions website.