FactSheet
October 2022

TIMBER IN BUSHFIRE ZONES

AS 3959-2018 ***Construction of buildings in bushfire-prone areas*** is referenced by the National Construction Code (NCC) for residential houses (Class 1 & 10) to be an acceptable deemed-to-comply construction manual. The standard is aimed at "improving the ability of buildings... to better withstand attack from bushfire thus giving a measure of protection to the building occupants (until the fire front passes)...", and not to deliver bushfire proof buildings.

The first step is to determine if you are in a bushfire zone. Some councils have mapped out areas of bushfire prone land, whilst others require that AS 3959 be used as determination. There are 6 Bushfire Attack Levels (BALs), ranging from BAL-LOW, through BAL-12.5, 19, 29, and 40 to BAL-FZ. AS 3959 has two methods of working out the BAL; a simplified (conservative) method and a detailed method. BAL-LOW is not considered here as there are no special requirements and for BAL-FZ it is suggested you get the assistance of a bushfire expert to assist with not only materials but also building design and layout. In NSW, Rural Fire Service approval is required if building in a BAL-FZ area.

Once the BAL has been determined, AS 3959 provides specific requirements for how to construct all elements of the structure. In addition, Victoria and NSW adopt specific bushfire construction standards available through their respective fire authorities and state government websites (see below links). The following table can be used as a basic conservative guide for structural elements and cladding with timber. AS 3959 is continually changing so please refer back to the standard to confirm these requirements are still valid.

TIMBER REQUIREMENTS FOR BUILDING IN DIFFERENT BAL AREAS

<table>
<tr><th>ELEMENT</th><th>CONDITION</th><th>BAL-12.5</th><th>BAL-19</th><th>BAL-29</th><th>BAL-40</th><th>BAL-FZ</th></tr>
<tr><td>All enclosed framing</td><td>All</td><td colspan="4">AT</td></tr>
<tr><td rowspan="2">Unenclosed sub-floor framing</td><td>≤400mm from ground</td><td colspan="2">BRT</td><td rowspan="3">SP</td><td rowspan="3">SP</td></tr>
<tr><td>Otherwise</td><td colspan="2">AT</td><td>AT[2]</td></tr>
<tr><td rowspan="2">All decking (enclosed or unenclosed)</td><td><300mm from glazing that are <400mm from deck surface</td><td>BRT[1]</td><td rowspan="3">BRT</td></tr>
<tr><td>Otherwise</td><td colspan="2">AT</td></tr>
<tr><td rowspan="2">Verandah posts</td><td>≤400mm from deck surface / ground</td><td colspan="2">BRT</td></tr>
<tr><td>Otherwise, if mounted on galv stirrups with >75mm ground clearance</td><td colspan="2" rowspan="4">AT</td><td rowspan="3">SP</td></tr>
<tr><td rowspan="2">Balustrades or handrails</td><td><125mm from any glazing or combustible wall</td></tr>
<tr><td>Otherwise</td><td colspan="2">AT</td></tr>
<tr><td>Fascia, barges and eaves linings</td><td>All</td><td>BRT[3]</td><td rowspan="3">SP</td></tr>
<tr><td rowspan="2">External cladding</td><td>≤400mm from deck surface / ground</td><td>BRT[1]</td><td rowspan="2">BRT[3]</td></tr>
<tr><td>Otherwise</td><td>AT</td></tr>
</table>

AT ANY TIMBER

BRT BUSHFIRE RESISTING TIMBER

SP SPECIAL TREATMENT REQUIRED USING A SYSTEM APPROACH

Notes:

1) Timber species given in Appendix E1 can be used in addition to BRT.

2) Use BRT for framing of unenclosed subfloor spaces of verandas, decks, steps, ramps and landings.

3) BRT can be avoided for eaves, linings and external cladding if a suitable FC sheet is provided.

BRT are Bushfire Resisting Timbers as noted in Appendix F of AS 3959. There are currently 7 species listed. The easiest to source is Merbau (Kwila), then Blackbutt, Spotted Gum, and Red Ironbark. The other three are not consistently readily available in large quantities.

If you need more information, below is a list of free resources which can help:

https://www.woodsolutions.com.au/construction-bushfire-prone-areas (Wood Solutions)

https://www.rfs.nsw.gov.au/plan-and-prepare/building-in-a-bush-fire-area (NSW Rural Fire Service)

https://www.planning.vic.gov.au/policy-and-strategy/bushfire/building-in-bushfire-prone-areas (VIC State Gov)

Meyer TIMBER Victoria | Meyer TIMBER New South Wales | Meyer TIMBER Queensland | Meyer TIMBER Tasmania

www.meyertimber.com.au

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